



City of Groton

Small Harbors Improvement Projects Program Grant Application

APPLICATION 1 of 2

THAMES STREET MARINA: TRANSIENT VESSEL DOCK & HANDICAP ACCESSIBLE KAYAK LAUNCH

June 12, 2019

Existing Conditions View



Proposed Docks and Access Improvements



Contents

Application Form	5
Project Description.....	7
Master Plan, Phase I Construction & Approvals	10
Project Costs.....	16
Assessment of Hurdles to Accomplish the Project	16
Context A: Neighboring Marine Services.....	17
Context B: Nearby Commercial Uses.....	18
Marine Related Services.....	19
Vision Statement.....	19
Current Conditions.....	21
Breakdown of Work Completed	22
Local and Regional Supporting Actions	22
Leverages Other Funding	23
Economic and Market Viability	24
Timeline to Implement the Project.....	25
Compatibility with Harbor Management Plan	25
Supports State’s Maritime Policies	26
Appendices	27

- Appendix A: COP Extension and Permit
- Appendix B: COP Eligibility Correspondence from DEEP
- Appendix C: Permit Drawings
- Appendix D: Harbor Management Plan
- Appendix E: Opinion of Costs
- Appendix F: Thames Street Master Plan
- Appendix G: 2019 POCD Applicable Sections
- Appendix H: Support Letters



THE CITY OF GROTON

Mayor Keith Hedrick

295 Meridian Street, Groton, CT 06340

(860) 446-4103 (860) 445-4058 FAX

June 12, 2019

Joseph Salvatore
Connecticut Port Authority
455 Boston Post Road, Suite 204
Old Saybrook, CT 06475

Re: Thames Street Marina: Transient Vessel Dock & Handicap Accessible Kayak Launch

Dear Mr. Salvatore,

On behalf of the City of Groton, I am pleased to submit to you one of two SHIPP grant applications for the development of a transient boating facility and kayak launch on Thames Street at New London Harbor. As outlined herein, this project will provide a needed transient boating facility and recreational amenities in a location with very limited public access to the water. Over the past 12 years the City has invested \$3 million at this property through land acquisitions, clean-up and infrastructure improvements. The 2017 SHIPP award was a positive step forward to help the City continue the momentum and work towards realizing our ultimate vision of an active and passive waterfront park and public boating facility. Our 2019 applications will assist us in further realizing this vision and complement the State's investments into New London Harbor.

The 2017 SHIPP grant has enabled us to finalize the dock design and coordinate permit requirements with CT DEEP. We will be in a position to bid the project at approximately the time this grant award and corresponding closing will occur. With private investment occurring along Thames Street and the State's grant award to Thames River Innovation Place for a Thames Street Master Plan, the dock improvements will be an important step in implementing an economic development strategy adjacent to New London Harbor.

As further discussed within our application, a physical hurdle the project faces is to provide pedestrian and handicap accessibility to the dock facility. To accomplish this, significant earthwork is required by importing fill material to build a handicap accessible walkway that is less than 5% in slope. To that end, we have submitted a second application to make these improvements while enhancing the enjoyment of the Thames River. When complete, this will be a gateway for visitors arriving by the Thames River Heritage Park Water Taxi and private vessels.


Thank you for taking the time to review our applications. If you have any questions you may contact me directly, or Dennis Goderre, City Planner at 860-446-4169.

Sincerely,

Keith Hedrick
Mayor

Contact Information		
City/Town: City of Groton		
Contact: Dennis Goderre, City Planner		
Date: June 12, 2019	Phone Number: 860-446-4169	Email: goderred@cityofgroton-ct.gov
Address: 295 Meridian Street		
City: Groton	State: CT	ZIP Code: 06340
Project Information		
Location: 343 Thames Street, Groton, CT		
<u>Timeline to Implement:</u> Attach a project schedule or timeline for the requested project.		
Is this project permitted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> In Process (Explain): CT DEEP reviewed; letter from DEEP provided stating COP consistency		
What type of Marine Related Service is provided by the facility: transient boating, handicap kayak launch		
Is the project approved by local authorities? (If no, explain): Yes		
Date of last dredge (month/year) : NA		
What is the current stage of the project? (e.g. planning, design, construction, etc.): Construction		
Is the project within a Federal Navigation Project or anchorage area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, explain status of the proposed project with U.S. Army Corps of Engineers:		
Narrative Description of the Current Conditions: Derelict docks with active COP adjacent to City moderately improved Park		
Attach a description of the proposal (e.g. work plan, budget, site map, etc.) and how it relates to the existing conditions and future vision: Provided in narrative		
Attach a statement of the vision for the future and economic development within port or harbor: Provided in narrative		
A brief assessment of what is considered to be the most critical hurdle to overcome in order to realize the vision, and to what extent, if any, state's agencies might be needed to facilitate a coordinated solution: Provided in narrative		
Attach a description of how the proposal will support the state's maritime policies and encourage maritime commerce and industry: Provided in narrative		
Project Costs (\$): \$815,416		
Matching Funds: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Amount (\$): \$166,083.20
<u>Local and Regional Support Actions:</u> The applicant shall provide evidence of local commitment to advance harbor improvement goals and approval of your specific proposal. Provided in narrative		
<u>Leverages Other Funding:</u> Indicate whether the harbor improvement funds will help leverage other past or future proposed public or private funding to provide a larger economic and development impact. Provided in narrative		
<u>Economic and Market Viability:</u> Describe the economic and market viability of harbor improvement in the proposed project area. Include an assessment of the proposed projects potential to progress as envisioned. Provide a market analysis to the best extent possible. Provided in narrative		
Does your town have a Harbor Management Plan? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, please attach a copy with your submission and include a narrative that explains how the project supports or is compatible with the Plan, with references to specific sections in the Plan. Provided in narrative		

References		
Name:	Address:	Phone:

Authorization	
Signature of Representative:  Mayor	Date: 6/11/19

Where to Apply:

Submit applications and questions – in writing only – to:

Joseph Salvatore
Connecticut Port Authority
455 Boston Post Road, Suite 204
Old Saybrook, CT 06475

You may also submit questions, or applications in Portable Document File (PDF) format, via electronic mail to: joseph.salvatore@ct.gov

Milestone Deadlines:

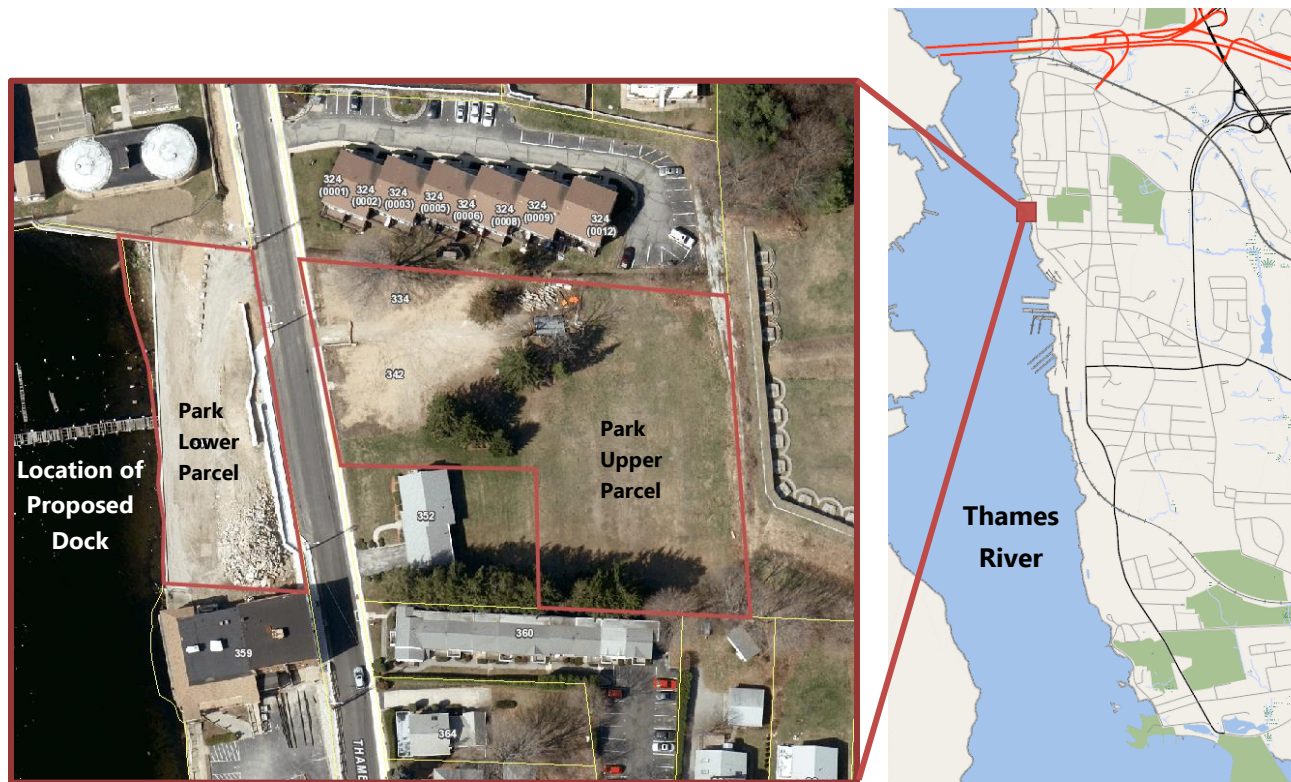
<u>Deadline for Application Submittal</u>	<u>June 12, 2019 (4:00 p.m.)</u>
<u>CPA Deadline-Rating-Selection</u>	<u>June 24, 2019 (CPA Board Meeting)</u>

Project Description

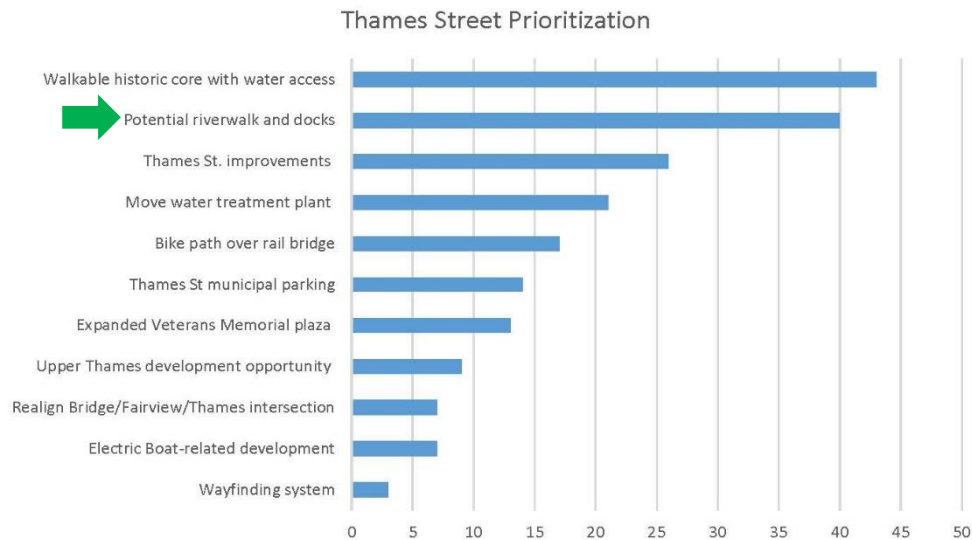
The City of Groton (City) is requesting funds to construct an eight (8) slip transient boating dock with handicap accessible kayak launch at the City owned park overlooking the Thames River on Thames Street. The facility will accommodate 26' length vessels with space for dinghies. The facility will consist of concrete floating docks and fingers with steel piles, security lighting, water and electric service, and handicap accessible (removable) gangway. The City Park consists of two parcels, upper and lower as depicted below. The City is completing the full engineering and bid specifications for this dock facility which was funded by a prior SHIPP grant and bid documents will be ready for advertising upon award of this grant. This project complements the additional SHIPP grant application also filed by the City of Groton and titled *Application 2 of 2: Dock Accessibility Improvements and Waterfront Park*. This latter application will fund safe handicap access from the public right of way and on-street parking to the dock facility via the park's lower parcel and prepare designs for expanded parking upon the park's upper parcel to support the dock and recreational water access.

The City received authorization under CT DEEP permit #201306086-MG and New England Army Corps of Engineers (ACOE) permit #NAE-2013-1476 to re-build the existing pier in-kind to match its previous configuration. These permits are still valid and are included in Appendix A. An extension to this permit was recently received and is also provided in the appendix.

The City has finalized coordination with CT DEEP to ensure the improvements meet the requirements of the existing Certificate of Permission (COP). CT DEEP has indicated that the design meets the requirements and said correspondence is provided in Appendix B.



As discussed further in this application, the City is undergoing a redevelopment plan for the Thames Street corridor, upon which this harbor improvement project is situated. During this study, an online survey was conducted to determine the highest priority desires of the public, with public waterfront and dock access ranking the second most important. Therefore, the Thames Street marina will contribute to the overall economic viability and redevelopment of Thames Street. The summary of this survey is provided below.



Results of the online survey from the Thames Street Master Plan.

Because of limited public waterfront access and the positive impact waterfront access will have upon economic development and redevelopment of Thames Street, the City has prioritized that the docks and waterfront be handicap accessible from the Thames Street. Thus, the complementing second application for park improvements has also been submitted.



An EZ-Dock system as proposed under this application.

As part of the City's overall goal of making the property more attractive for public access and waterfront recreation, including transient boating and kayaking, the City is proposing to make modifications to the authorized dock configuration that would be eligible for a Certificate of Permission from CT DEEP and produce a total of eight (8) yearly and transient slips. These modifications include proposing a configuration that is comprised of a floating main dock, accessed by a pier and handicap accessible gangway extending from the existing bulkhead; with finger

floats extending from the sides of the main float (see plans provided). These changes would make berthing at the facility more convenient and attractive, as vessel tie-up would be possible at all tides without the need for access ladders.



View of the Thames River Heritage Park Water Taxi, owned by the City of Groton; Thames Street, Fort Griswold State Park and Historic Groton Bank are depicted in the background, all within walking distance from the proposed dock facility.

This facility may also provide for a permanent home to the City's harbor master, who currently does not have a permanent slip and 'borrows' from a local marine business. Furthermore, the facility is envisioned to be home to the Thames River Heritage Park Water Taxi. The taxi is owned by the City and it presently utilizes the Thames Landing dock just to the north and owned by the State. This new City owned facility will provide a welcoming gateway for visitors using the Water Taxi as they visit Thames Street, Fort Griswold State Park, the Groton Bank National Historic District and enjoy the new waterfront park which would be funded by the complementing grant application.

This work is directly related to the City's long-term plan for the site, which is to develop a passive waterfront park and recreational boating access facility. The Conceptual Waterfront Master Plan communicates this future vision by demonstrating the site history, scope of the *Project*, future build-out (8 transient slips, kayak launching float), and site context.

To realize the site's potential, the City has invested \$3.0 M by completing the following critical development tasks:

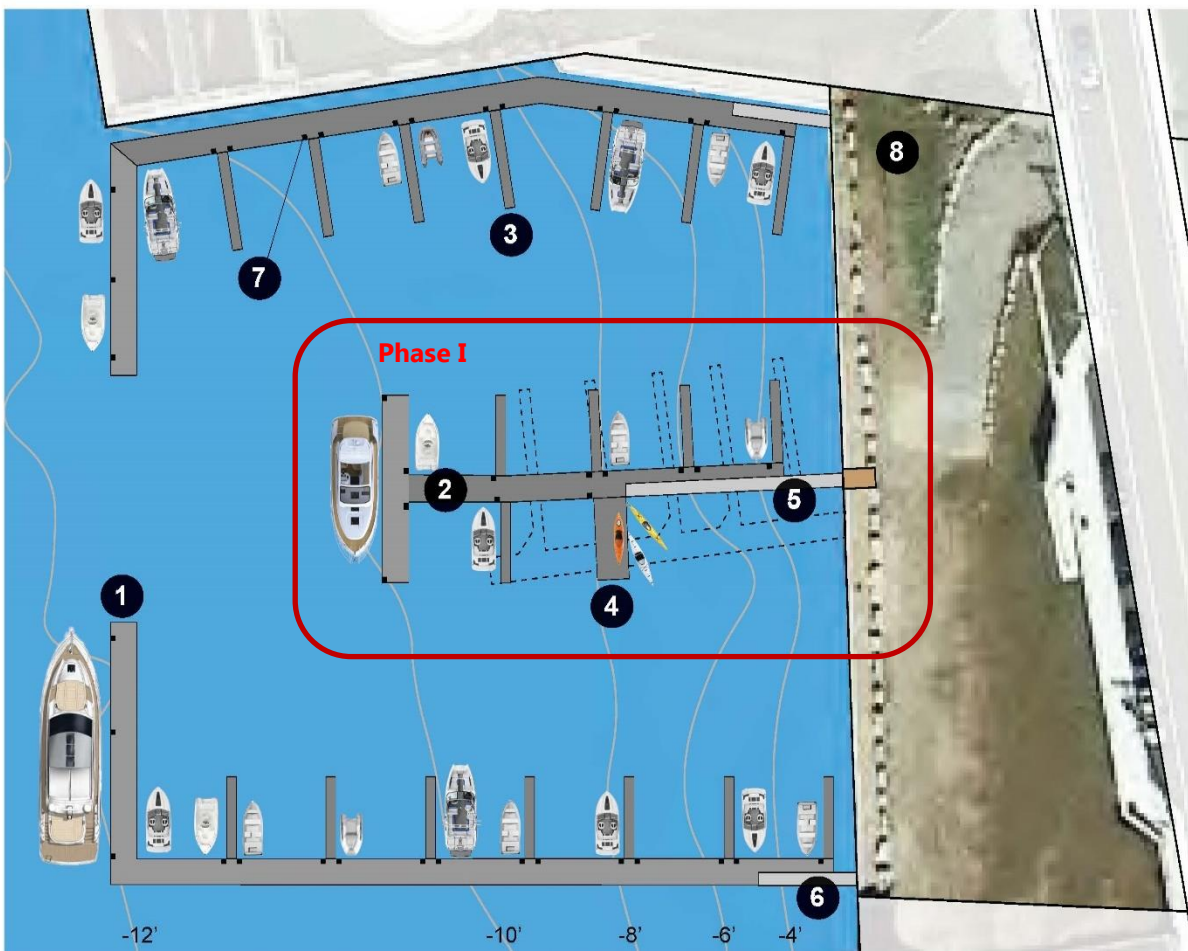
- 90% complete construction documents for the dock facility
- Completed property survey and appraisal
- Acquired the property from a private owner
- Abated the property and razed the buildings/appurtenances

- Installed on-street parking
- Installed a street-side retaining wall with access stair
- Graded and vegetated areas along the retaining wall
- Removed the deteriorated stone bulkhead and installed a new steel sheetpile bulkhead

As previously stated in the 2017 SHIPP Grant application, it is estimated that the facility will create two-four new jobs in the form of marina attendants and maintenance personnel. In addition, the City will hire a local marine contractor to perform yearly and on-call maintenance activities and which funds will be budgeted annually, likely within the Recreation and Parks operating budget.

Master Plan, Phase I Construction & Approvals

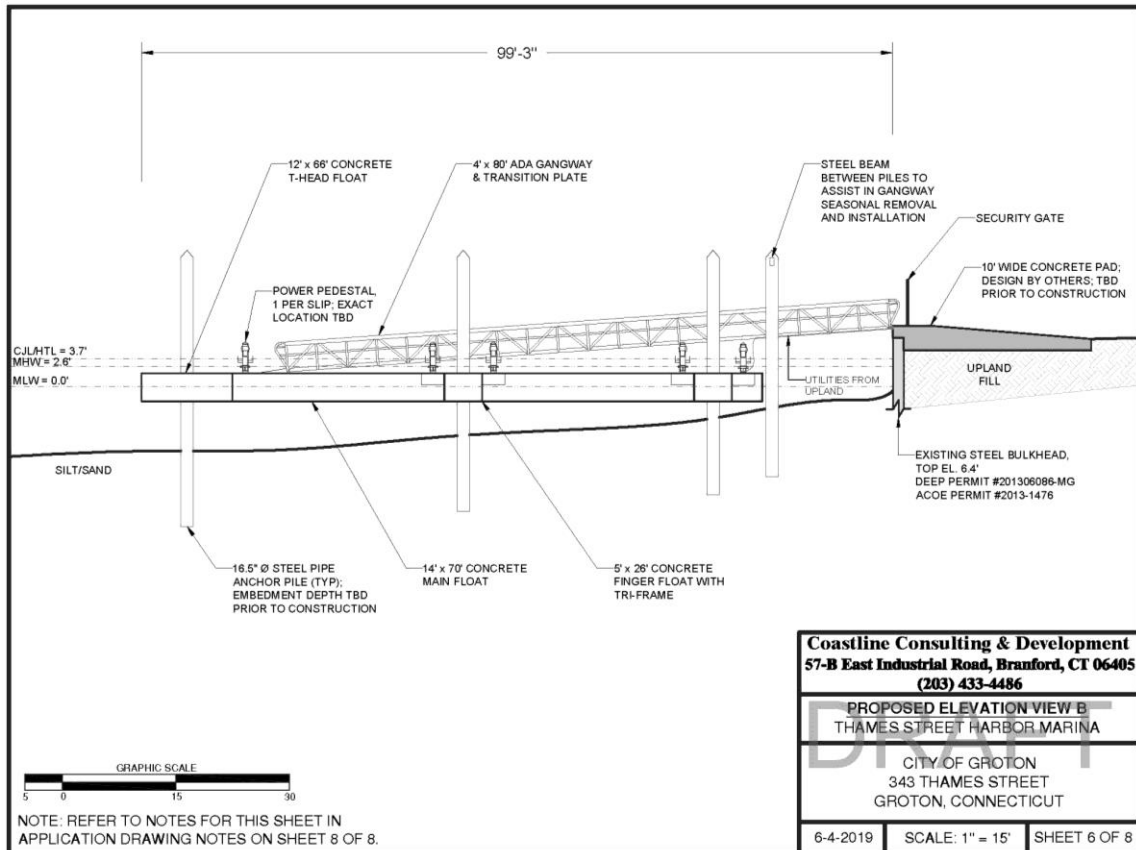
As noted herein, the vision for the property has been an expanded public marina owned and operated by the City with waterfront park providing safe handicap accessible access to the facility. Below represents the full buildout of the marina portion and highlights the location of the Phase I improvements to be funded by this grant application and currently under design. On the following page is a more detailed plan of the current phase I design and permit drawings are provided in Appendix C.



The master plan envisions up to 40 slips with outside dock structures providing additional wave attenuation.

City of Groton
Thames Street Marina: Transient Vessel Dock and Handicap Accessible Kayak Launch

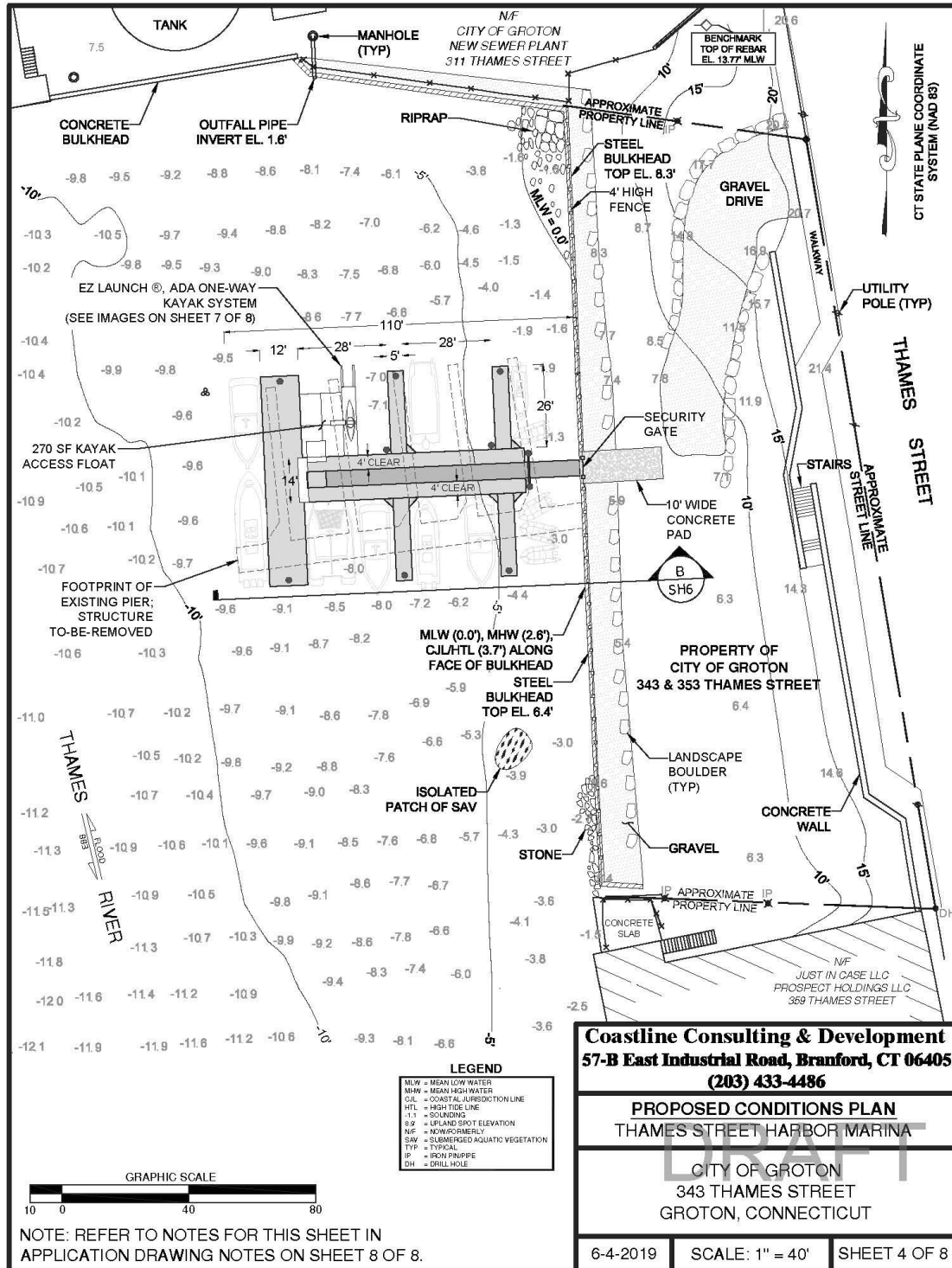
As indicated previously, CT DEEP has issued concurrence on the design of the facility and meeting COP requirement. Permitting will be complete and as will final construction documentation by the time this grant closing is anticipated. Further, all local approvals have been received which include CGS 8-24 referral to the Planning Commission. The improvements are exempt from local zoning as a municipal improvement and final reviews are only required by the City Planner and, as applicable the Building Official. Please see section drawing below and plan view on following page for dock designs.



The above image represents a cross section of the proposed dock system. See next page for plan view.

The image to the left depicts a representative example of the concrete floating dock system and fingers to be constructed. 26' length vessels will be accommodated with adequate water depths.

City of Groton
Thames Street Marina: Transient Vessel Dock and Handicap Accessible Kayak Launch



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Thames Street Marina: Transient Vessel Dock and Handicap Accessible Kayak Launch



Project Costs

The costs include funds to pay for the construction of the facility and a coastal consulting firm to assist with construction oversight. This work is a continuation of the development first envisioned when the property was purchased by the City in 2007 and draws upon the work completed via the 2017 SHIPP funds for design and engineering. A summary of the costs is provided below and our Consultant's detailed cost analysis is provided as Appendix E.

<u>Item</u>	<u>Cost</u>
Professional Services	\$ 69,720
Contractor Mobilization	\$ 32,500
Labor & Equipment	\$ 156,000
Marine Demo Disposal	\$ 5,200
Floating Docks, concrete & wood	\$ 334,496
Kayak Launch System, proprietary (1)	\$ 26,000
Float Restraint Piles (8)	\$ 54,600
Gangway, aluminum (1)	\$ 49,400
Concrete Pad (100 SF)	\$ 6,500
Fire Protect standpipe	\$16,000
Utilities (lump sum place holder)	\$ 65,000
Opinion Total	\$ 815,416

Assessment of Hurdles to Accomplish the Project








The potential impediments to accomplishing the *Project* include:

- The availability of funding to pay for the construction for the dock and handicap accessibility.
- Providing handicap accessibility to the docks from Thames Street due to steep topography (see photo below).
- Inclement weather that could delay on-site construction activities.



A hurdle to overcome is the topographic change from the public ROW to the Thames River. This is a common challenge throughout Thames Street and depicted in the image to the left at the City Park where the dock facility is proposed. The complementing grant application will help overcome this hurdle.

THAMES STREET HARBOR CITY OF GROTON

-  FISHING
-  BOAT LAUNCH
-  MARINA
-  BOAT PUMP-OUT
-  FERRY
-  WATER TAXI
-  TRANSIENT BOAT MOORINGS



THAMES STREET HARBOR CITY OF GROTON



CONTEXT B BOATING FACILITY COMPLEMENTS NEARBY COMMERCIAL USES & PUBLIC CORRIDOR

Marine Related Services

The City of Groton has very limited public waterfront access, let-alone public boating facilities. Once constructed, the *Project* will provide HC accessible public access to the water and recreational opportunities in a location dominated by privately owned waterfront land. The Project will enhance the use of the site by providing vessel berthing, both transient and perhaps long term for tour or charter opportunities, including the Water Taxi. And when park access improvements are complete (see additional grant application) handicap accessible access to the Thames River will be realized. It is anticipated that the facility will provide standard marine services, such as: kayaking launching, dockside power & water, and upland trash disposal. Restroom facilities may not be provided directly on-site but, long-term, provided at the residence across the street and if acquired by the City.

The City has already made commitments to supporting and accommodating water dependent uses along this portion of the Thames River by installing a public vessel pump-out at the adjacent Pollution Abatement Facility and instituting the Thames River Heritage Park Water Taxi, as previously noted.

The successful development of the project site for waterfront public access and transient berthing will encourage future development at other waterfront locations within the City of Groton, both public and private, as there will be greater awareness of the accessibility to and viability of recreational boating access along the Thames River shoreline.

Vision Statement

The Vision is to create the first municipally owned waterfront park and public dock facility that is a destination for visitors and residents. The facility will provide leisure and recreational activities, and the handicap accessibility to the Thames River. This will complement the ongoing private investment throughout the corridor and the master plan being developed via state grant funds to the Thames River Innovation Place, one of four Innovation Districts in the State of Connecticut. As previously noted, water access is important to the redevelopment of Thames Street, a once vibrant coastal economic hub where the City of Groton was founded. The initial concepts of the Thames Street Master Plan is provided in Appendix F and an expert from the City's 2019 *Plan of Conservation and Development* supporting water access in this area is provided in Appendix G.

Representative Listing of Dedicated & Active Private and Public Investments in Thames Street occurring in the last 12 months

- *SHIPP Grant for design of dock facility*
 - *CT Next grant to Thames River Innovation Places for redevelopment planning of Thames Street*
 - *Renovation of former State Police Barracks into Office*
 - *Office Expansion for EB Vendor*
 - *New shellfishing docks and operation*
 - *Fin fish aquaculture facility and distribution*
 - *Potential Redevelopment of the historic Mother Baily House into museum, office or residence*
 - *Renovation and expansion of the Groton Heights School for Thayer Mahan World Headquarters*
 - *Possible distillery*
 - *Potential new restaurant by local restaurateur in vacant historic building*
-

Historically, the City of Groton, located on the eastern bank of the Thames River has had a significant presence in the state's marine related industries. With more than 25,000 linear feet of frontage on the Thames River and Long Island Sound, the City is home to water based businesses, the most notable being Electric Boat a division of General Dynamics and Pfizer Pharmaceuticals, but also businesses and uses such as Mystic Oyster, Hel Cat fishing charters, and Mohawk Northeast. However, the City does not have a municipally owned marine related facility and there is no handicap accessible access to the water.



A view of a portion of Thames Street where local businesses once thrived. While they remain, success is not what it was and the City is working to revise the corridor by establishing zoning mechanisms to promote redevelopment and create destinations to draw visitors to the area, such as the dock facility and park.

In 2005, the City purchased the two parcels of land which are the subject to improvements associated with this application, one on the waterfront with an existing dock and finger piers the other located across the street at the base of Fort Griswold. The location of this site, at the southern end of a significant and commercially zoned district along Thames Street, meant the redevelopment and use of the site would lead to sustainable commercial redevelopment on Thames Street. The development goal for this Thames Street marina and its twin parcel has always been to provide:

- Access and limited amenities to and for the boating public
- Slips for transient boats
- Slips for long term private boat charters or tour boats
- Space for kayak and canoe launches
- Access for fishing
- Open passive recreation space with areas set aside for picnics, events, festivals, informal and formal gatherings

The Thames Street Harbor site offers the City a unique opportunity to provide diverse activities that will draw people to use the facilities and attend the events offered at the site, takes advantage of the passengers on the Thames River Heritage Park Water Taxi allows easy walking access to the Thames Street commercial district and the numerous assets and resources nearby.

Current Conditions

Currently, the waterfront site includes the recently constructed steel sheetpile bulkhead, with a concrete cap and safety fence, and the existing timber pier. The water depths along the immediate shoreline range from approximately -4.0' to -10.0' at mean low water. Such water depths are conducive to providing full tidal boating access without the need for dredging. Providing such functionality increases the attractiveness of the site for transient recreational boating. In addition, the site is located only 500' east of the Federal Navigation Channel in the Thames River, allowing for convenient, full tidal access to/from Long Island Sound.

The upland of the site is located directly off of Thames Street, a road that runs parallel to the Thames River which, has new public sidewalks, multiple shops and restaurants, and various opportunities for new/future commercial establishments.



A view of New London Harbor from the Park Upper Parcel which is subject to conceptual planning under the complementing grant application for parking to support the dock facility and waterfront park.



A view upon the Park lower parcel depicting the steep slope restricting safe pedestrian and handicap access to the dock and waterfront.

Breakdown of Work Completed

To date, work completed on the site consists of the following, totaling \$2,990,299.94:

- Design and engineering of the dock facility (prior SHIPP Grant)
- Thames Street redevelopment plan and strategy (estimated completion date July 1, 2019)
- Preliminary design and engineering of handicap parking and access to the dock
- City acquiring the property
- Demolition of the pre-existing upland structures
- Construction of the steel sheetpile bulkhead
- Upland grading and landscaping
- New retaining wall supporting Thames Street and on-street parking

Local and Regional Supporting Actions

Financially, the City has already committed substantial monetary resources in the amount of \$2,990,299.94 for the initial site preparation. The actions taken thus far in support of the *Project* include:

- Property acquisition
- Site demolition
- Planning
- Bulkhead design
- State and federal permitting
- Coastal Site Plan Approval from the City Planning and Zoning Commission
- Building Permit issuance from the City Building Department
- Construction of the steel sheetpile bulkhead.

The City approved these improvement measures specifically for the purpose of laying the groundwork for the future development of a passive waterfront park and boating access facility. The City has demonstrated their continued backing of the *Project* by submitting letters of the support from the following (see Appendix H):

- Office of the Mayor (see Cover Letter)
- Planning & Zoning Commission
- Economic Development Commission
- Harbor Management Commission



View of the site from Thames Street looking west and conditions of existing dock. (Winter 2019)

Leverages Other Funding

The City has spent \$2,990,299.94 since 2005 to develop the site. The City is now requesting \$652,332.80 from the CPA's SHIPP grant program to construct the facility with a match of 20% as required. This high already expended-to-requested funds ratio demonstrates the City's continued commitment to develop the property. Moving forward, the Harbor Improvement funds will help leverage the money spent to date into an initial viable boating configuration (the Project, phase 1) and eventually the complete buildout of the Thames Street marine facility as represented on the enclosed conceptual plans. From prior research completed by the City in 2017, and still relevant at this time, all phases of this facility will provide convenient recreational boating opportunities and generate income from boat slip rentals (\$70-\$100/foot per season), transient slip rentals (\$3/foot per day), and kayak rentals (\$20-\$35 per hour per kayak), which will provide a larger economic and development impact for not only the immediate Thames Street corridor, but the City of Groton and greater Thames River waterway as a whole.

Furthermore, the proximity of this site to the Fort Street State dock where the Thames River Heritage Park Water Taxi drops off and picks up passengers, also leverages the funds spent by the State to establish this park and dock.

In addition to assessing how the grant funds would leverage both past and future funding, it was necessary to evaluate the financial impact if the grant was not awarded for the Project. Not proceeding with the waterfront development of the site would be a lost opportunity cost for a City without a municipally owned docking facility. Moreover, the City would lose the ability to leverage the almost 3 million dollars expended to date.



Economic and Market Viability

A survey of twelve marinas or docking facilities in Southeastern CT by the City of Groton and conducted in 2017 for the prior SHIPP Grant Application, yielded information that guided the decision of the City of Groton to seek funds from the Connecticut Port Authority (CPA) to re-develop an existing dock at the project site. We believe this two-year old study remains relevant.

Based on this research, the City believes that there is a demand for transient spaces on both sides of the Thames River. The future construction of the Coast Guard museum in New London adjacent to City Pier, and the activation of the Water Taxi as part of the State Heritage Park, which docks just 50 yards north of the project site, are just two new developments in the area that have the potential to dramatically increase the attractiveness of this region to the boating community. The dramatic increase in employees forecasted by Electric Boat over the next three years also suggests demand for boat slips and boating destinations, nearby, will surge.

Re-designing and construction of the dock at the site, providing space for transient boat slips and public use of and access to docks and the water for fishing, canoeing and kayaking appears to not only provide a much needed public asset but one that is economically viable as well.

The survey yielded the following key information:

1. **Regionally, the growth in boating, long term dock space requests and the marina industry in general since 2012 has been slow but steady** in both sales and demand. This data is supported by a study done by Pell Research, although the recovery in Southeastern Connecticut was behind that of the rest of the country.
2. **Reservations of rented slips have increased slowly** but steadily since 2014. Most marinas noted that they have recently expanded their operations in the last year in anticipation of growth in 2017 and beyond. Larger, more expensive Marinas offering many amenities and services noted the most recovery in demand and income. Smaller, less expensive marinas have noted a slower improvement.
3. **Municipal docks have noticed an uptick in demand**, although several note that they don't offer permanent spaces or amenities equivalent to private marinas. Better marketing and more local events were thought to have produced this growth.
4. **Transient Dock Space is in demand.** Seven marinas interviewed, stated they believe there will continue to be increasing demand for transient dock space moving forward. (The other 5 marinas do not offer transient slips or moorings). While SECT is not typically a destination for most boaters, there has been an increase in the demand for transient spaces for 2-5 days. Most private marinas do not dedicate slips for transient overnight stays. Rather they re-purpose existing slips when the resident boat is away. Municipality owned docking areas are largely earmarked for the transient boating population.
5. **Moorings are not an unmet demand.** None of the marinas interviewed believed that there is an unmet demand for transient moorings. In fact, neighboring New London has a large mooring field (41 spaces) that remains largely empty except for one large festival weekend during the summer.

Consistent, 7-day a week launch service and dedicated dingy tie ups are important services to offer if the moorings are to be economically viable.

6. **Floating docks are more financially supportable than fixed.** All surveyed agreed that on a tidally influenced body of water, floating docks were recommended due to maintenance costs and ease of use by boaters.
7. **Accommodations for fishing/crabbing etc. are recommended.** The survey found that the majority interviewed noted that providing access for fishing, crabbing and shell fishing enhances their business.

The survey yielded the following data. The average stay for transient boats is 2.5 days. The average price charged is \$2.75/foot with nearly all amenities being additional charges. Amenities offered range from water, power, on shore bathrooms, launch service, dock space for dinghy's, to repair services, gas/diesel, private showers, laundry facilities, pump out services, store, and on shore pools, restaurants or markets.

Timeline to Implement the Project

It is anticipated that the *Project* will take approximately one-year to construct following grant closing. Below is an estimated timeline of all project steps.

Project Schedule

Submit Grant Proposal	June 2019
Close on Grant	December 2019
Bid Project	January 2020
Award Contract to Successful Bidder	April 2020
Construction	April – October 2020
Project Close-out	October 2020

Compatibility with Harbor Management Plan

The City of Groton Harbor Management Plan (HMP) (see Appendix D) indicates that the project site is located within an area designated as Area A: Groton Bank. Section 3.2 of the HMP states that a goal of the plan is to encourage economic revitalization of this area by making provisions for transient vessels. By providing transient berthing slips, the *Project* promotes and encourages recreational boating along the Thames River shoreline. This will allow water borne visitors to patronize the restaurants and shops located along Thames Street, which increases economic activity and, in turn, will lead to even greater demand for transient slips along the Thames River shoreline.

In addition, section 4.2 of the HMP provides goals for Area A of encouraging public access and passive recreation and encouraging accommodation of transient vessels. The *Project* is consistent with both of these policies by providing transient berthing space at the site, which encourages public access and passive recreation along the shoreline.

Supports State's Maritime Policies

The *Project* supports the State's maritime policy of promoting the recreational use of Connecticut's ports and harbors. By providing transient berthing slips, the *Project* promotes and encourages recreational boating along the Thames River shoreline. This will allow water borne visitors to patronize the restaurants and shops located along Thames Street, which increases economic activity and, in turn, will lead to even greater demand for transient slips along this side of the Thames River.

In addition, the Connecticut Coastal Management Act (Connecticut General Statutes (CGS) sections 22a-90 through 22a-113c), which governs both State and local regulatory decisions in Connecticut's coastal area, has several policies that directly relate to and encourage efforts to increase recreational boating access in the State's coastal waters. Specifically, CGS section 22a-92(b)(1)(G) establishes a State goal of encouraging

increased recreational boating access to coastal waters, where feasible. The *Project* is consistent with this policy by modifying the existing pier to provide for, better accommodate, and encourage recreational boating access to the Thames River shoreline.



CGS section 22a-92(b)(1)(I), among other goals, promotes the upgrading of existing facilities that serve recreational boating. The City currently has authorization to rebuild the existing pier in-kind. However, the *Project* is to upgrade the facility so that it attracts transient recreational boating access by providing more convenient means of berthing and access to the main dock. Therefore, the *Project* promotes this maritime related policy.

Finally, CGS section 22a-92(b)(2)(G) encourages the use of existing developed shorefront for recreational boating uses through State and local planning and promotional programs. As the *Project* is the result of a thoroughly evaluated local planning effort to encourage recreation boating access and is requesting State funding that promotes such uses, it is evident that the *Project* promotes this maritime related policy.

Appendix A



Date: January 28, 2019

Barbara Goodrich
City of Groton
295 Meridian Street
Groton, CT 06340

**RE: Extension Request for Authorization #201306086-MG
311, 343 and 353 Thames Street, Groton**

Dear Ms. Goodrich:

We have received a letter dated January 22, 2019 from your representative David Provencher of Coastline Consulting & Development, LLC requesting a one-year extension of time beyond the April 16, 2019 expiration date to complete the work authorized under the above-referenced authorization. Mr. Provencher's letter stated that the previously authorized reconstruction of the fixed pier still needs to be completed.

Based on a review of the file, this Office hereby grants a one-year extension of the expiration date in accordance with the terms and conditions of the above-referenced authorization. Please note that the authorization will now expire on April 16, 2020. Please be advised that all other terms and conditions of the authorization shall remain in full force and effect.

Please be aware that any work in tidal wetlands, or waterward of the coastal jurisdiction line, in the tidal, coastal or navigable waters of the State undertaken without appropriate authorization is a violation of State law and is subject to enforcement actions by this Department and the Office of the Attorney General.

If you have any questions, please contact Micheal Grzywinski of my staff at (860) 424-3674 or at micheal.grzywinski@ct.gov.

Sincerely,

Brian P. Thompson, Director
Land & Water Resources Division
Bureau of Water Protection & Land Reuse

BPT/mpg

cc: David Provencher, Coastline Consulting & Development, LLC, david@coastlineconsulting-ct.com
Diane Ray, Army Corps of Engineers, Diane.M.Ray@usace.army.mil
File #201306086-MG, Groton



PERMIT

Permit No: 201306086-MG

Municipality: City of Groton

Work Area: Thames River off properties located at 311, 343 and 353
Thames Street

Permittee: City of Groton
c/o Barbara Goodrich
295 Meridian Street
Groton, CT 06340

Pursuant to sections 22a-359 through 22a-363g of the Connecticut General Statutes ("CGS") and in accordance with CGS section 22a-98 and the Connecticut Water Quality Standards, effective February 25, 2011, a permit is hereby granted by the Commissioner of Energy and Environmental Protection ("Commissioner") to install a sheetpile bulkhead for shoreline flood and erosion control and to repair an existing fixed pier for recreational boating use as is more specifically described below in the SCOPE OF AUTHORIZATION, off property identified as the "work area" above.

*******NOTICE TO PERMITTEES AND CONTRACTORS*******

UPON INITIATION OF ANY WORK AUTHORIZED HEREIN, THE PERMITTEE ACCEPTS AND AGREES TO COMPLY WITH ALL TERMS AND CONDITIONS OF THIS PERMIT. FAILURE TO CONFORM TO THE TERMS AND CONDITIONS OF THIS PERMIT MAY SUBJECT THE PERMITTEE AND ANY CONTRACTOR TO ENFORCEMENT ACTIONS, INCLUDING INJUNCTIONS AS PROVIDED BY LAW AND PENALTIES UP TO \$1,000.00 PER DAY PURSUANT TO THE ADMINISTRATIVE CIVIL PENALTY POLICY DESCRIBED IN SECTIONS 22a-6b-1 THROUGH 22a-6b-15 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES.

SCOPE OF AUTHORIZATION

The Permittee is hereby authorized to conduct the following work as described in application #201306086-MG, including thirteen (13) sheets of plans dated September 6, 2013, submitted by the Permittee to the Commissioner and attached hereto, as follows:

311 Thames Street

1. retain existing structures consisting of:
 - a. 93 linear feet of steel sheetpile bulkhead;
 - b. a 12" diameter stormwater outfall pipe;
 - c. approximately 11 cubic yards of stone riprap;
2. install 93 linear feet of new steel sheetpile bulkhead with a top elevation of +8.2' mean low water ("MLW");
3. extend the existing stormwater pipe through the new sheetpile bulkhead identified above;
4. place clean backfill landward of the new bulkhead identified above to an elevation of +7.4' MLW;
5. install a new 22" wide pre-cast concrete cap on top of the bulkhead identified above and install a 6' tall safety fence;

343 & 353 Thames Street

1. retain existing structures consisting of:
 - a. a three (3) pile dolphin cluster and two (2) single tie-off piles;
 - b. an 8' wide by 110' long fixed pile and timber pier with five (5) 3' wide by 50' long finger piers;
2. retain an existing 248 linear foot long concrete and stone bulkhead as shown on the plans attached hereto;
3. remove approximately 216 cubic yards of existing stone riprap located on the northern portion of the property;
4. remove the existing concrete and stone bulkhead identified above;
5. install 248 linear feet of new steel sheetpile bulkhead with a top elevation of +8.2' MLW for a length of 67' beginning in the northern corner of the property with the remaining bulkhead having a top elevation of +6.3' MLW and an 11' long return on the southern end;
6. install a new 22" wide pre-cast concrete cap on top of the bulkhead identified above and install a 6' tall safety fence;
7. place clean backfill landward of the new bulkhead identified above; and
8. remove and replace, in-kind and in-place deteriorated piles, split caps, stringers and decking on the existing pier identified above.

SPECIAL TERMS AND CONDITIONS

1. The Permittee shall file Appendix B on the land records of the municipality in which the subject property is located not later than thirty (30) days after permit issuance pursuant to CGS Section 22a-363g. A copy of Appendix B with a stamp or other such proof of filing with the municipality shall be submitted to the Commissioner no later than sixty (60) days after permit issuance.
2. Not later than two (2) weeks prior to the commencement of any work authorized herein, the Permittee shall submit to the Commissioner, on the form attached hereto as Appendix A, the name(s) and address(es) of all contractor(s) employed to conduct such work and the expected date for commencement and completion of such work, if any.
3. The Permittee shall give a copy of this permit to the contractor(s) who will be carrying out the activities authorized herein prior to the start of construction and shall receive a written receipt for such copy, signed and dated by such contractor(s). The Permittee's contractor(s) shall conduct all operations at the site in full compliance with this permit and, to the extent provided by law, may be held liable for any violation of the terms and conditions of this permit. At the work area the contractor(s) shall, whenever work is being performed, make available for inspection a copy of this permit and the final plans for the work authorized herein.
4. All work associated with the repair of the fixed pier authorized herein shall be conducted using water-based equipment during periods of high water.
5. The new sheetpile bulkhead authorized herein shall not extend further than 18" waterward of the existing waterward face of the existing bulkhead and as close to the existing slope as shown on the plans attached hereto.
6. The sheetpile and concrete cap authorized herein shall have a top elevation of +8.2' MLW.
7. The Permittee shall post the attached Permit Notice in a conspicuous place at the work area while the work authorized herein is undertaken.
8. Except as specifically authorized by this permit, no equipment or material, including but not limited to, fill, construction materials, excavated material or debris, shall be deposited, placed or stored in any wetland or watercourse on or off-site, or within any delineated setback area, nor shall any wetland, watercourse or delineated setback area be used as a staging area or access way other than as provided herein.
9. Except as specifically authorized by this permit, no equipment or material, including but not limited to, fill, construction materials, excavated material or debris, shall be deposited, placed or stored in any wetland or watercourse on or off-site, nor shall any wetland or watercourse be used as a staging area or access way other than as provided herein.

10. All waste material generated by the performance of the work authorized herein shall be disposed of by the Permittee at an upland site approved for the disposal of such waste material, as applicable.
11. On or before ninety (90) days after completion of the work authorized herein, the Permittee shall submit to the Commissioner "as-built" plans of the work area showing all tidal datums and structures, including any proposed elevation views and cross sections included in the permit. Such plans shall be the original ones and be signed and sealed by an engineer, surveyor or architect, as applicable, who is licensed in the State of Connecticut.

GENERAL TERMS AND CONDITIONS

1. All work authorized by this permit shall be completed within five (5) years from date of issuance of this permit ("work completion date") in accordance with all conditions of this permit and any other applicable law.
 - a. The Permittee may request a one-year extension of the work completion date. Such request shall be in writing and shall be submitted to the Commissioner at least thirty (30) days prior to said work completion date. Such request shall describe the work done to date, what work still needs to be completed, and the reason for such extension. It shall be the Commissioner's sole discretion to grant or deny such request.
 - b. Any work authorized herein conducted after said work completion date or any authorized one year extension thereof is a violation of this permit and may subject the Permittee to enforcement action, including penalties, as provided by law.
2. In conducting the work authorized herein, the Permittee shall not deviate from the attached plans, as may be modified by this permit. The Permittee shall not make de minimis changes from said plans without prior written approval of the Commissioner.
3. The Permittee may not conduct work waterward of the high tide line or in tidal wetlands at this permit site other than the work authorized herein, unless otherwise authorized by the Commissioner pursuant to CGS section 22a-359 et. seq. and/or CGS section 22a-32 et. seq.
4. The Permittee shall maintain all structures or other work authorized herein in good condition. Any such maintenance shall be conducted in accordance with applicable law including, but not limited to, CGS sections 22a-28 through 22a-35 and CGS sections 22a-359 through 22a-363g.
5. In undertaking the work authorized hereunder, the Permittee shall not cause or allow pollution of wetlands or watercourses, including pollution resulting from sedimentation and erosion. For purposes of this permit, "pollution" means "pollution" as that term is defined by CGS section 22a-423.
6. Upon completion of any work authorized herein, the Permittee shall restore all areas impacted by construction, or used as a staging area or access way in connection with such work, to their condition prior to the commencement of such work.

7. The work specified in the SCOPE OF AUTHORIZATION is authorized solely for the purpose set out in this permit. No change in the purpose or use of the authorized work or facilities as set forth in this permit may occur without the prior written authorization of the Commissioner. The Permittee shall, prior to undertaking or allowing any change in use or purpose from that which is authorized by this permit, request authorization from the Commissioner for such change. Said request shall be in writing and shall describe the proposed change and the reason for the change.
8. The Permittee shall allow any representative of the Commissioner to inspect the work authorized herein at reasonable times to ensure that it is being or has been accomplished in accordance with the terms and conditions of this permit.
9. This permit is not transferable without prior written authorization of the Commissioner. A request to transfer a permit shall be submitted in writing and shall describe the proposed transfer and the reason for such transfer. The Permittee's obligations under this permit shall not be affected by the passage of title to the work area to any other person or municipality until such time as a transfer is authorized by the Commissioner.
10. Any document required to be submitted to the Commissioner under this permit or any contact required to be made with the Commissioner shall, unless otherwise specified in writing by the Commissioner, be directed to:

Permit Section
Office of Long Island Sound Programs
Department of Energy and Environmental Protection
79 Elm Street
Hartford, Connecticut 06106-5127
(860) 424-3034
Fax # (860) 424-4054

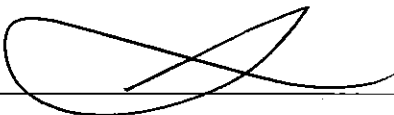
11. The date of submission to the Commissioner of any document required by this permit shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under this permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three (3) days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" as used in this permit means calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or a Connecticut or federal holiday shall be submitted or performed on or before the next day which is not a Saturday, Sunday, or a Connecticut or federal holiday.
12. Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this permit shall be signed by the Permittee and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows: "I have personally examined and am familiar with the information submitted in this document and all attachments and certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the

information, the submitted information is true, accurate and complete to the best of my knowledge and belief, and I understand that any false statement made in this document or its attachments may be punishable as a criminal offense.”

13. In evaluating the application for this permit the Commissioner has relied on information and data provided by the Permittee and on the Permittee's representations concerning site conditions, design specifications and the proposed work authorized herein, including but not limited to representations concerning the commercial, public or private nature of the work or structures authorized herein, the water-dependency of said work or structures, its availability for access by the general public, and the ownership of regulated structures or filled areas. If such information proves to be false, deceptive, incomplete or inaccurate, this permit may be modified, suspended or revoked, and any unauthorized activities may be subject to enforcement action.
14. In granting this permit, the Commissioner has relied on representations of the Permittee, including information and data provided in support of the Permittee's application. Neither the Permittee's representations nor the issuance of this permit shall constitute an assurance by the Commissioner as to the structural integrity, the engineering feasibility or the efficacy of such design.
15. In the event that the Permittee becomes aware that they did not or may not comply, or did not or may not comply on time, with any provision of this permit or of any document required hereunder, the Permittee shall immediately notify the Commissioner and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. In so notifying the Commissioner, the Permittee shall state in writing the reasons for the noncompliance or delay and propose, for the review and written approval of the Commissioner, dates by which compliance will be achieved, and the Permittee shall comply with any dates which may be approved in writing by the Commissioner. Notification by the Permittee shall not excuse noncompliance or delay and the Commissioner's approval of any compliance dates proposed shall not excuse noncompliance or delay unless specifically stated by the Commissioner in writing.
16. This permit may be revoked, suspended, or modified in accordance with applicable law.
17. The issuance of this permit does not relieve the Permittee of their obligations to obtain any other approvals required by applicable federal, state and local law.
18. This permit is subject to and does not derogate any present or future property rights or powers of the State of Connecticut, and conveys no property rights in real estate or material nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state or local laws or regulations pertinent to the property or activity affected hereby.

Issued on 4/16, 2014

STATE OF CONNECTICUT
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION

A handwritten signature in black ink, consisting of a large loop followed by a series of smaller, fluid strokes, is written over a horizontal line.

Macky McCleary
Deputy Commissioner

Permit #201306086-MG, Groton
City of Groton



Coastline Consulting & Development
5-B Old Post Road, Madison, CT 06443
(203) 245-8138

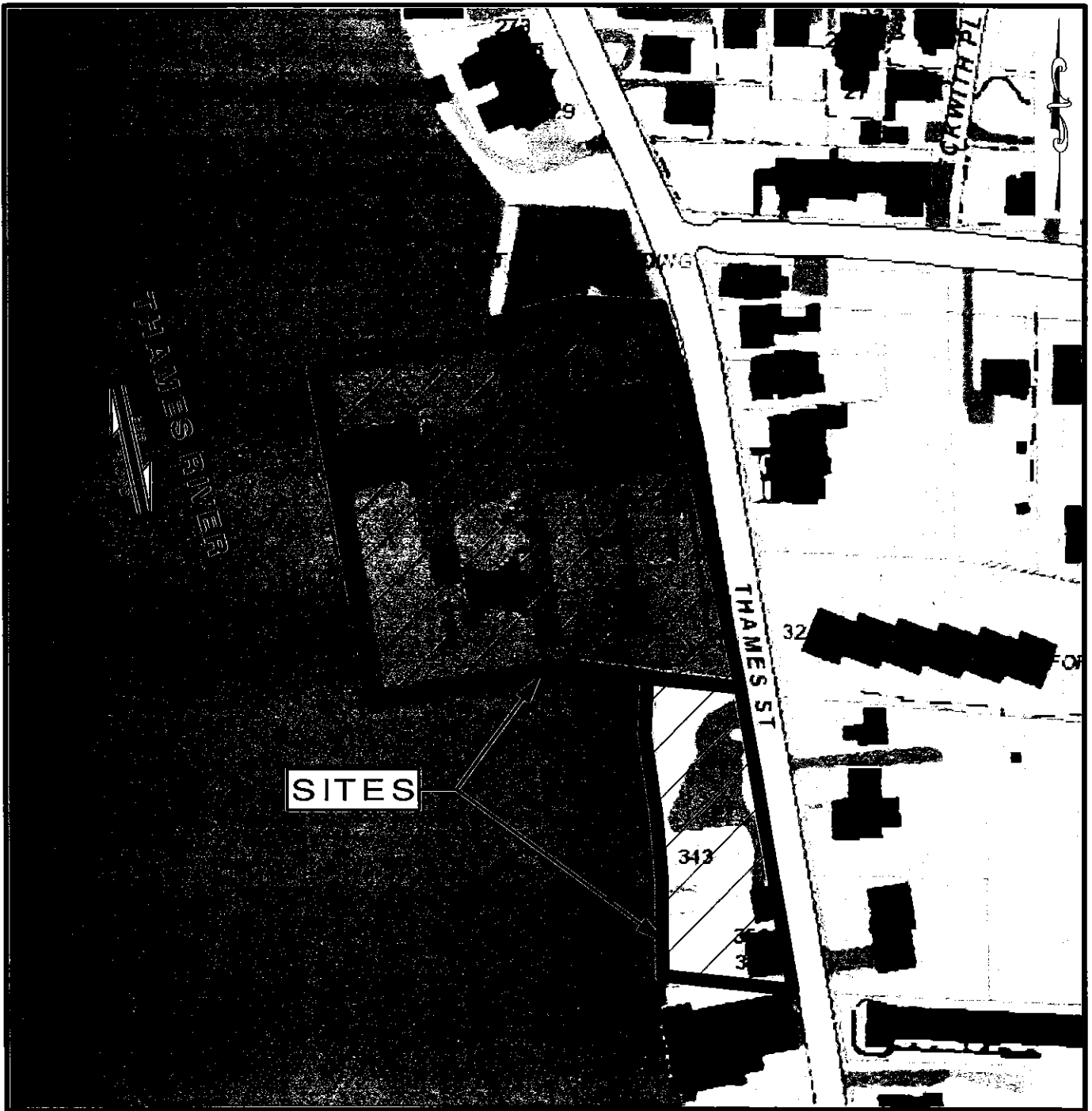
FIGURE 1 OF 13
SITE LOCATION MAP

CITY OF GROTON PROPERTIES
311, 343 & 353 THAMES STREET
GROTON, CONNECTICUT

NOTE: REFER TO NOTES FOR THIS FIGURE IN
APPLICATION DRAWING NOTES ON FIGURE 13 OF 13.

SEPTEMBER 6, 2013

SCALE: 1 = 12,000



NOTE: REFER TO NOTES FOR THIS FIGURE IN
APPLICATION DRAWING NOTES ON FIGURE 13 OF 13.

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(203) 245-8138

FIGURE 2 OF 13
SITE PLAN VIEW

CITY OF GROTON PROPERTIES
311, 343 & 353 THAMES STREET
GROTON, CONNECTICUT

SEPTEMBER 6, 2013

SCALE: 1" = 200'

N/F
STATE OF CONNECTICUT
FORT GRISWOLD
301 THAMES STREET

PROPERTY OF
CITY OF GROTON
NEW SEWER PLANT
POLLUTION ABATEMENT FACILITY
311 THAMES STREET

CITY OF GROTON
PROPERTY
343 & 353 THAMES STREET
GROTON, CT

N/F
JUST IN CASE, LLC
359 THAMES STREET
GROTON, CT

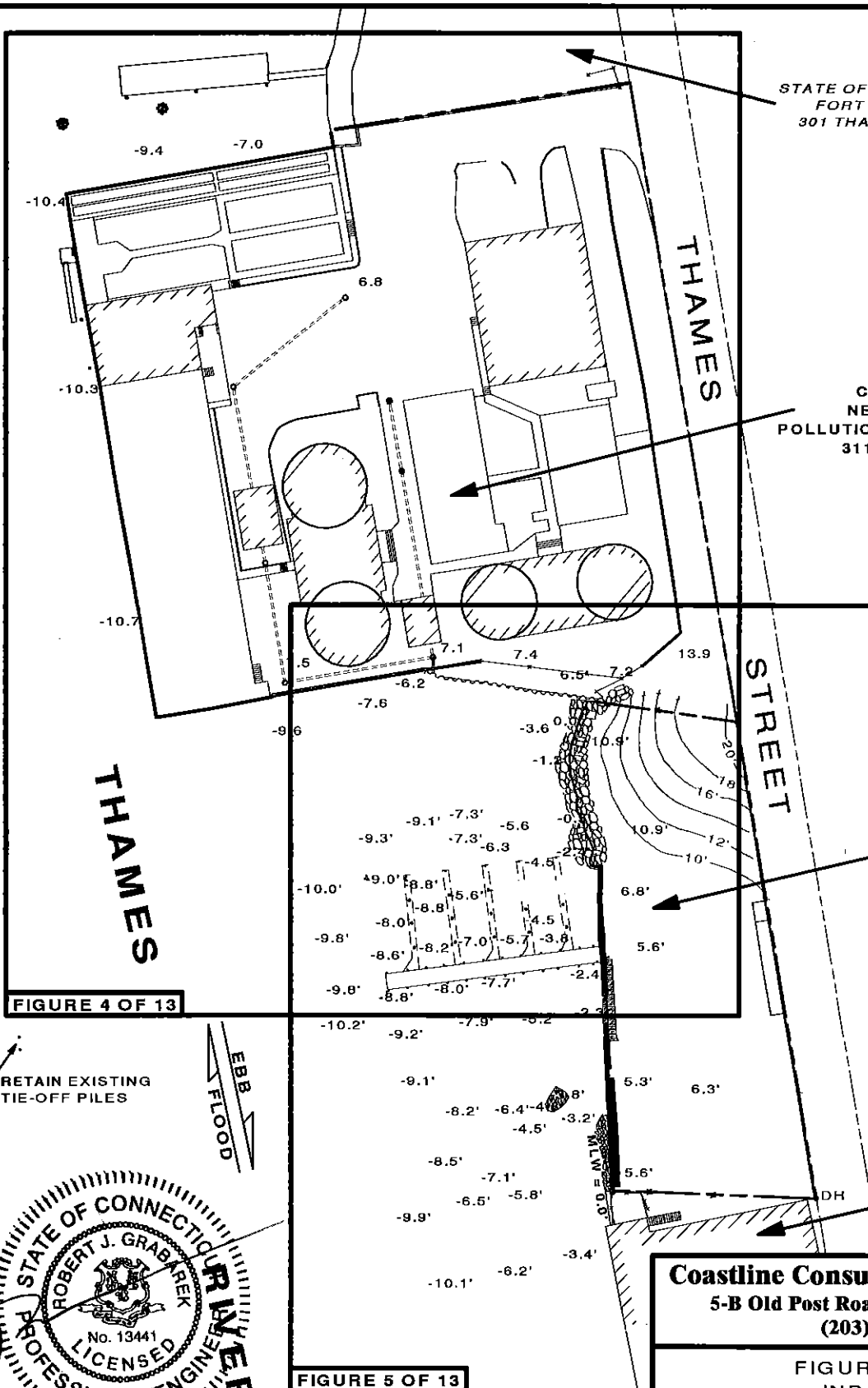
Coastline Consulting & Development
5-B Old Post Road, Madison, CT 06443
(203) 245-8138

FIGURE 3 OF 13
INDEX MAP

CITY OF GROTON PROPERTIES
311, 343 & 353 THAMES STREET
GROTON, CONNECTICUT

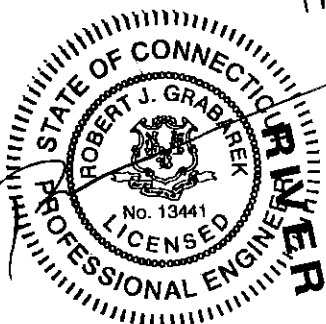
SEPTEMBER 6, 2013

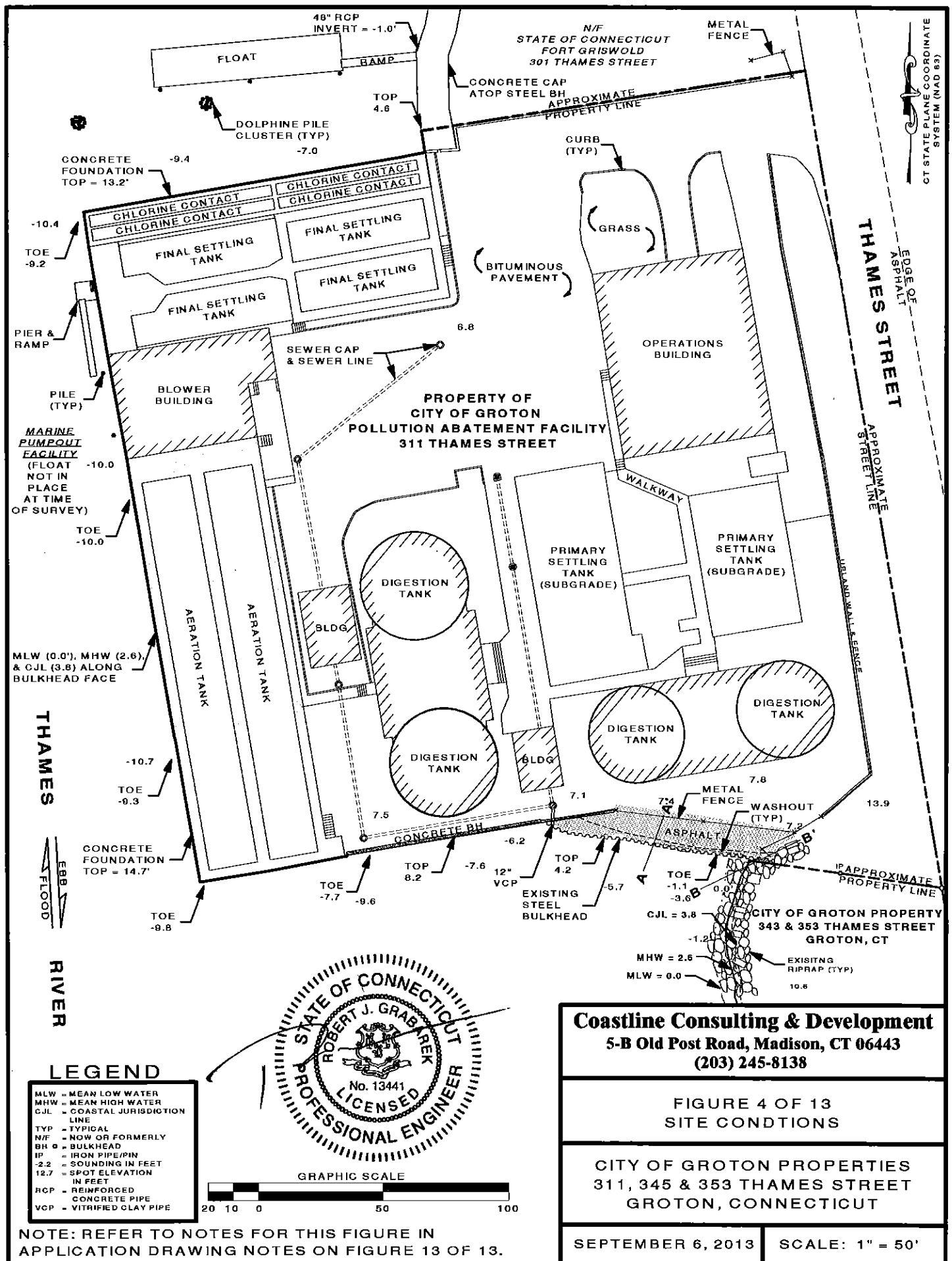
SCALE: 1" = 80'

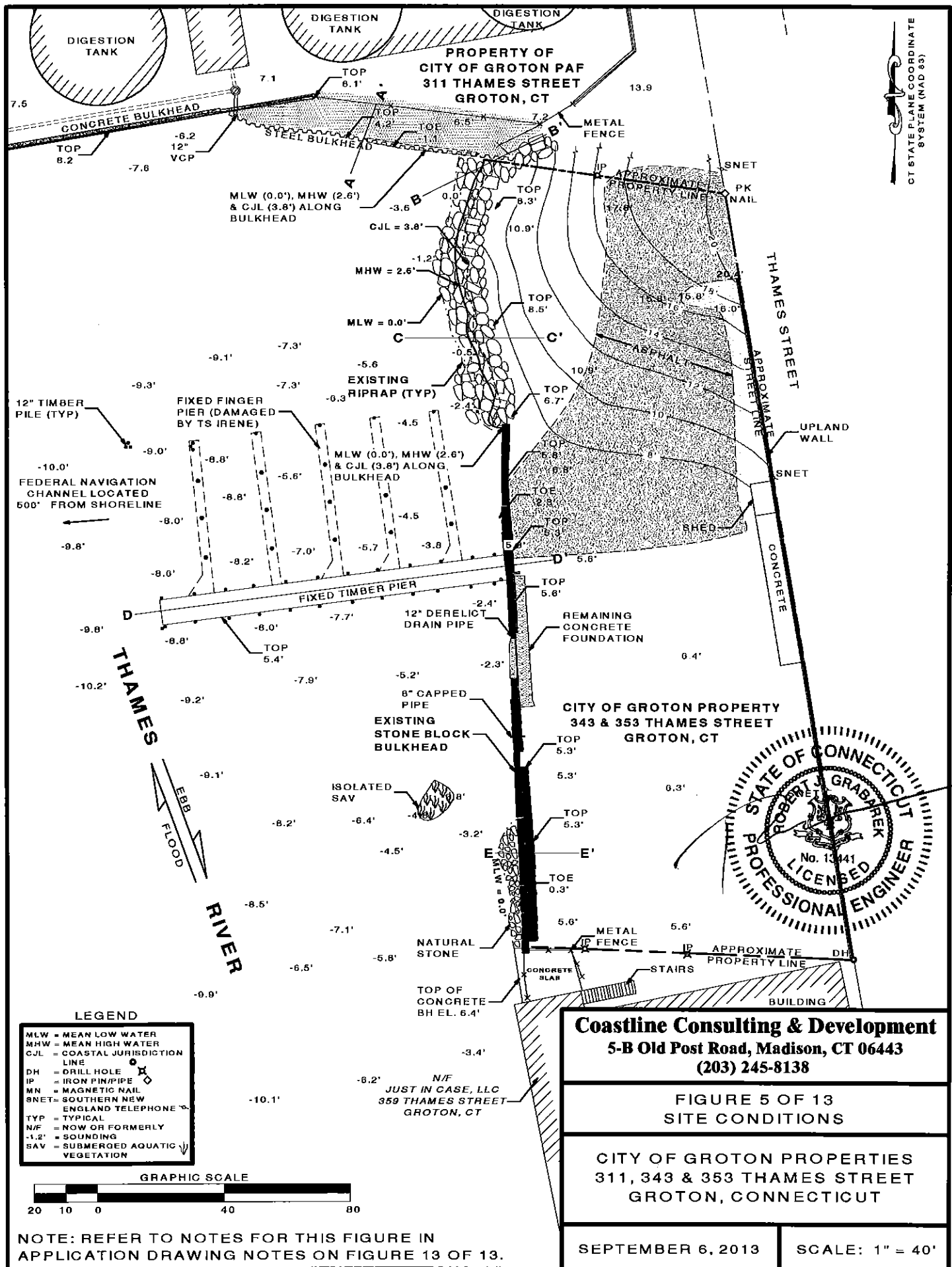


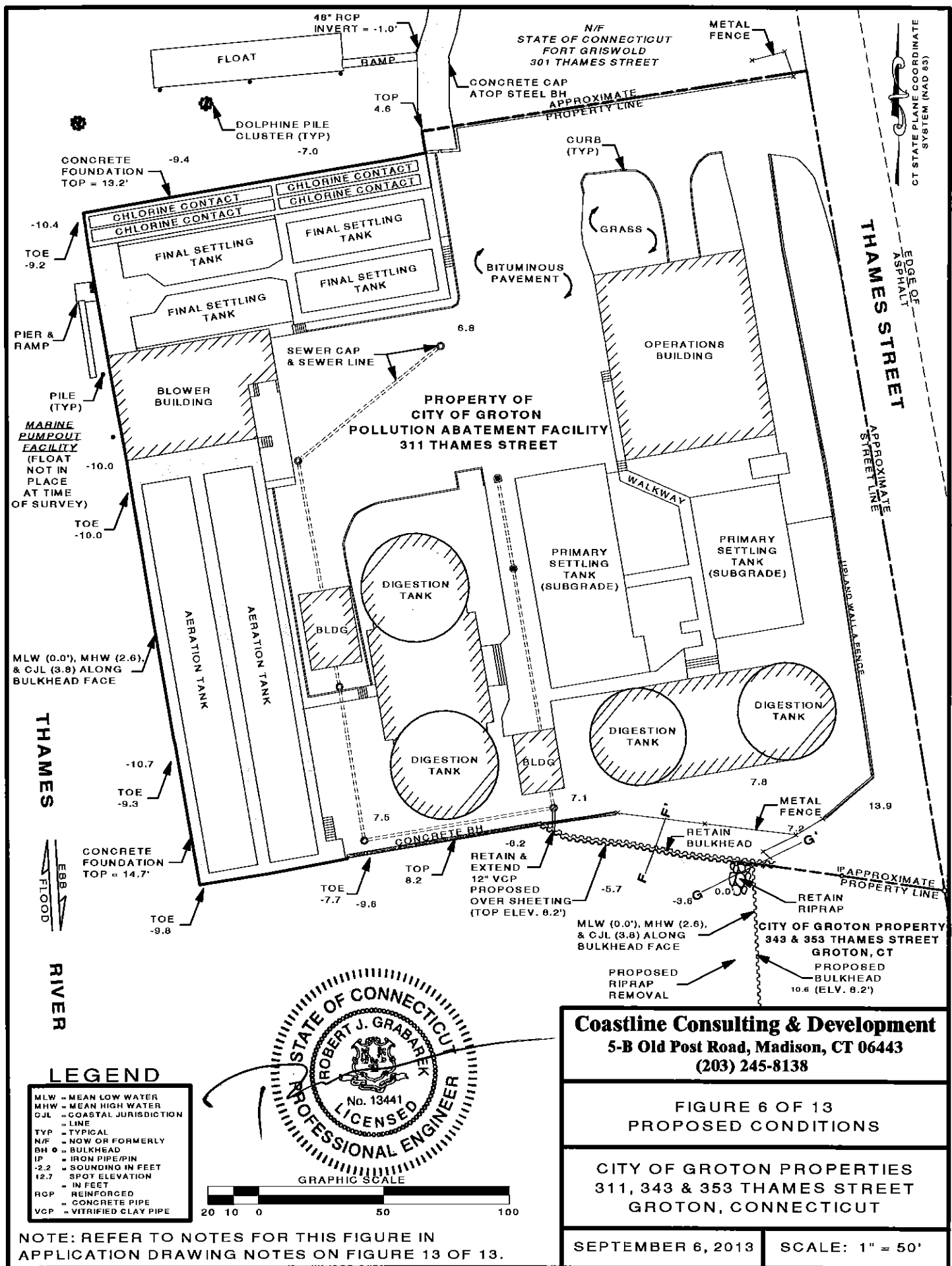
RETAIN EXISTING
TIE-OFF PILES

EBB
FLOOD

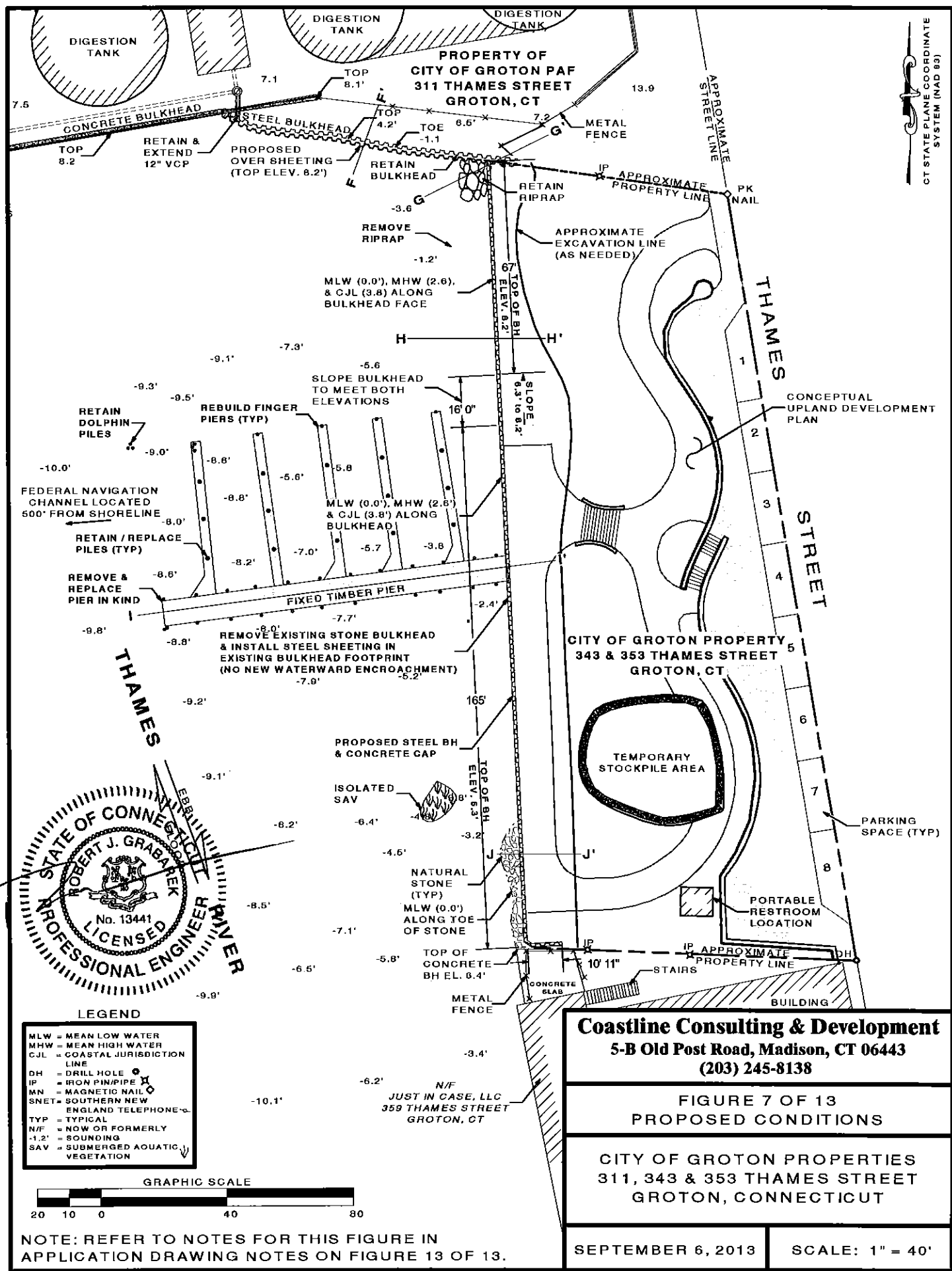








CT STATE PLANE COORDINATE
SYSTEM (NAD 83)



- LEGEND**
- MLW = MEAN LOW WATER
 - MHW = MEAN HIGH WATER
 - C.J.L. = COASTAL JURISDICTION LINE
 - DH = DRILL HOLE
 - IP = IRON PIN/PIPE
 - MN = MAGNETIC NAIL
 - SNET = SOUTHERN NEW ENGLAND TELEPHONE
 - TYP = TYPICAL
 - N/F = NOW OR FORMERLY
 - 1.2' = SOUNDING
 - SAV = SUBMERGED AQUATIC VEGETATION



NOTE: REFER TO NOTES FOR THIS FIGURE IN APPLICATION DRAWING NOTES ON FIGURE 13 OF 13.

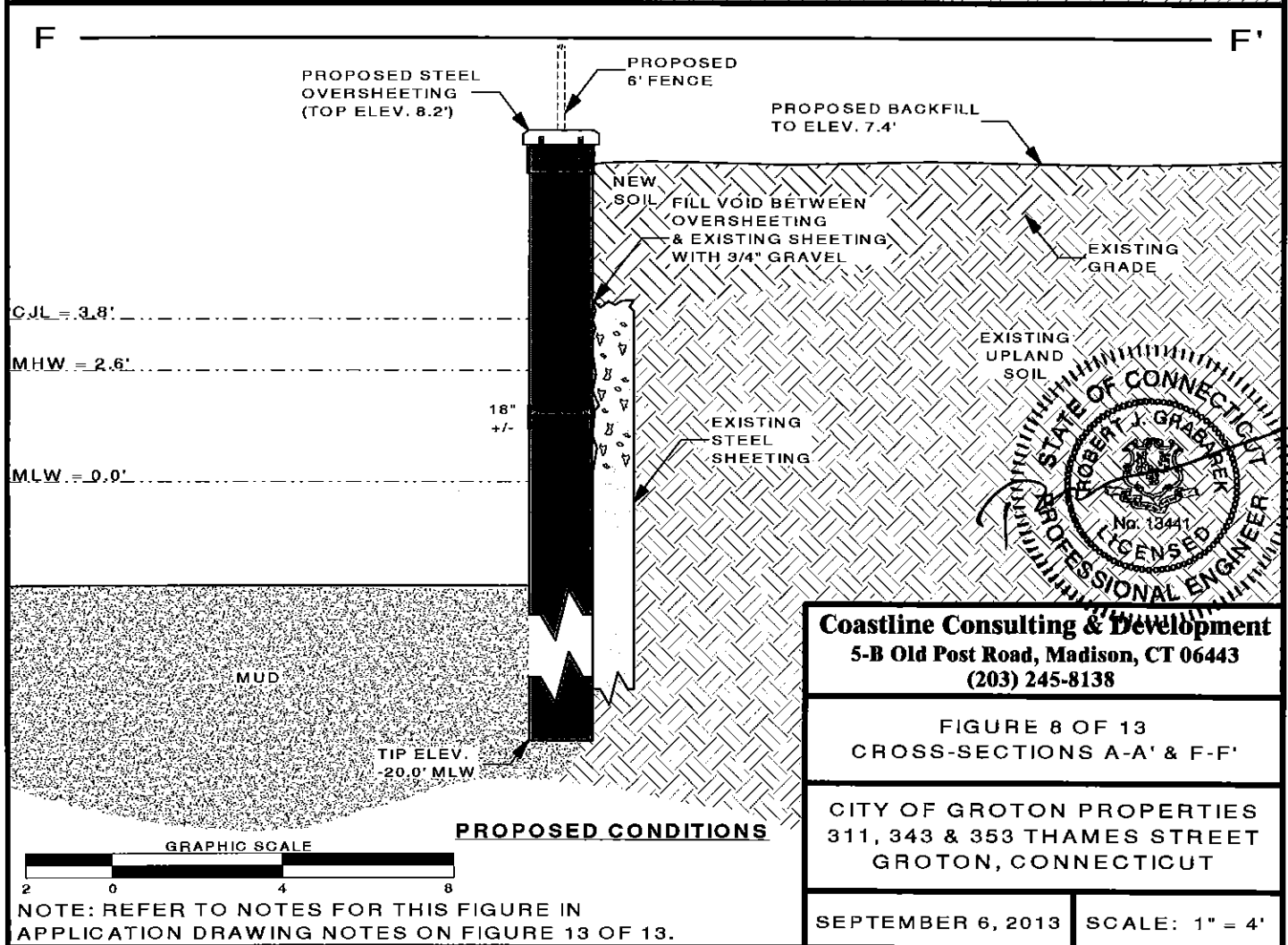
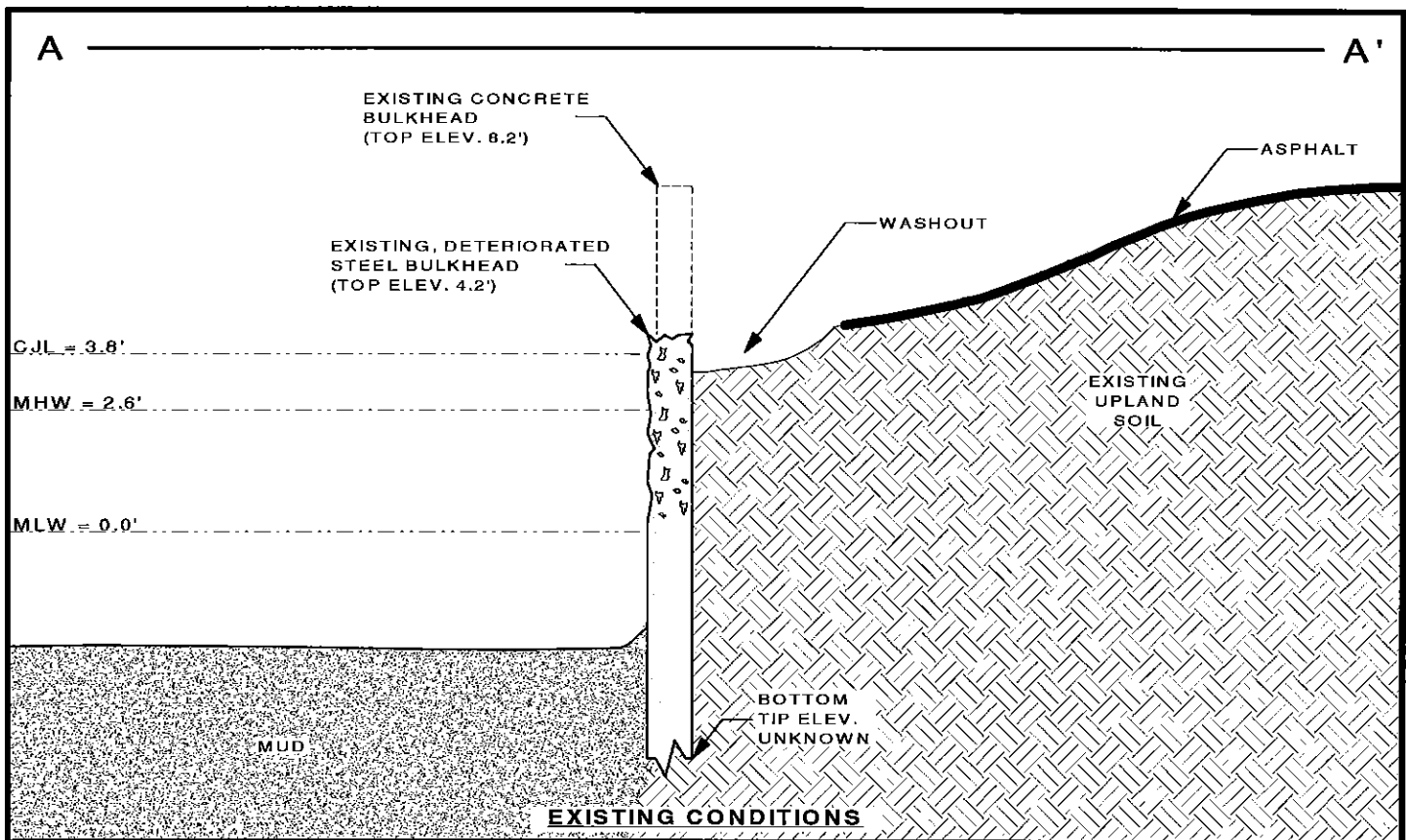
Coastline Consulting & Development
5-B Old Post Road, Madison, CT 06443
(203) 245-8138

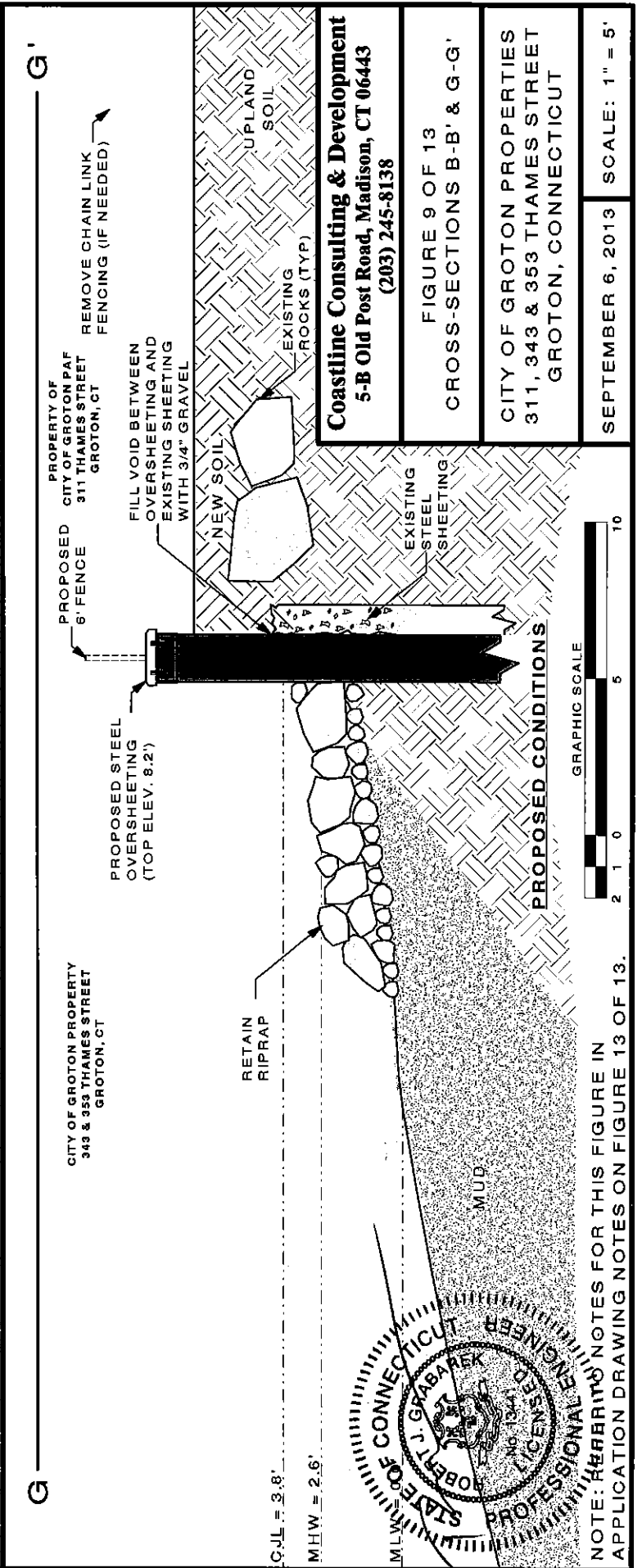
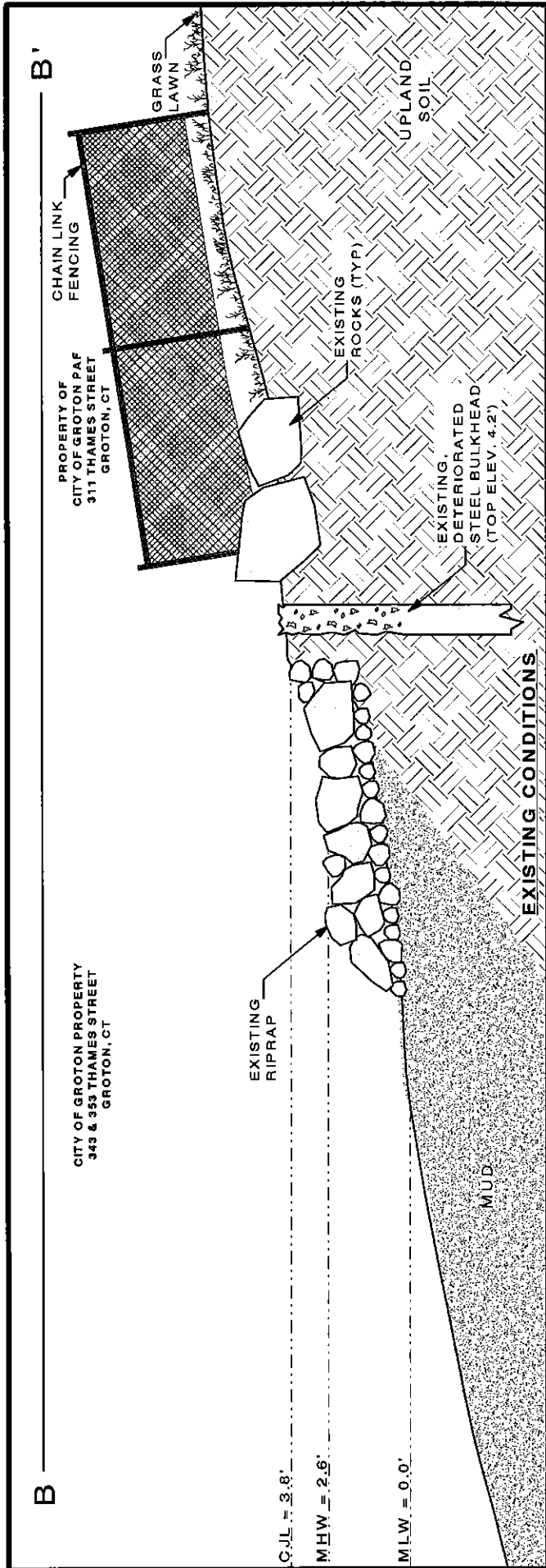
FIGURE 7 OF 13
PROPOSED CONDITIONS

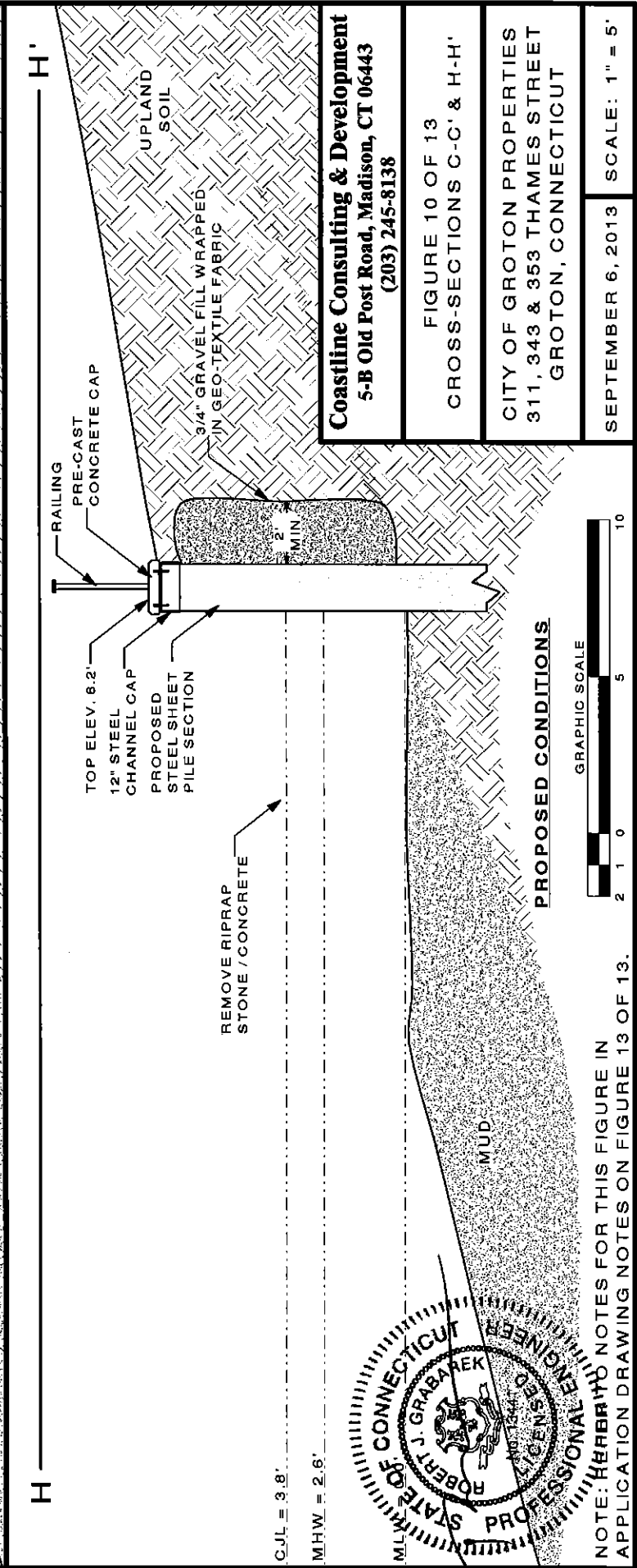
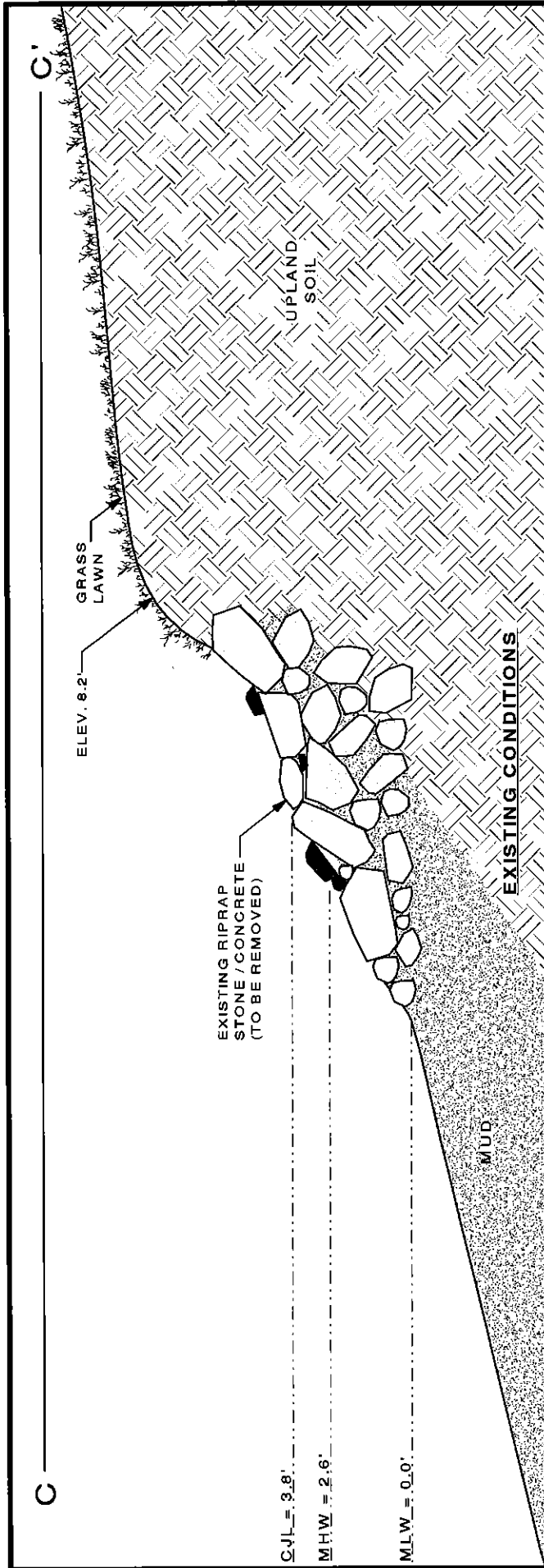
CITY OF GROTON PROPERTIES
311, 343 & 353 THAMES STREET
GROTON, CONNECTICUT

SEPTEMBER 6, 2013

SCALE: 1" = 40'







Coastline Consulting & Development
 5-B Old Post Road, Madison, CT 06443
 (203) 245-8138

FIGURE 10 OF 13
 CROSS-SECTIONS C-C' & H-H'

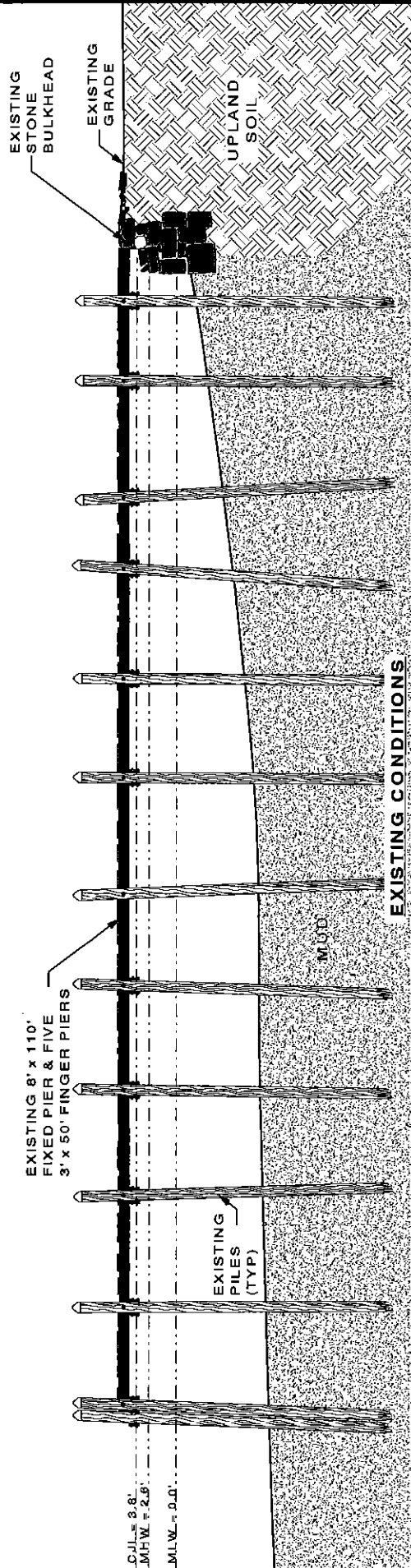
CITY OF GROTON PROPERTIES
 311, 343 & 353 THAMES STREET
 GROTON, CONNECTICUT

SEPTEMBER 6, 2013
 SCALE: 1" = 5'



D

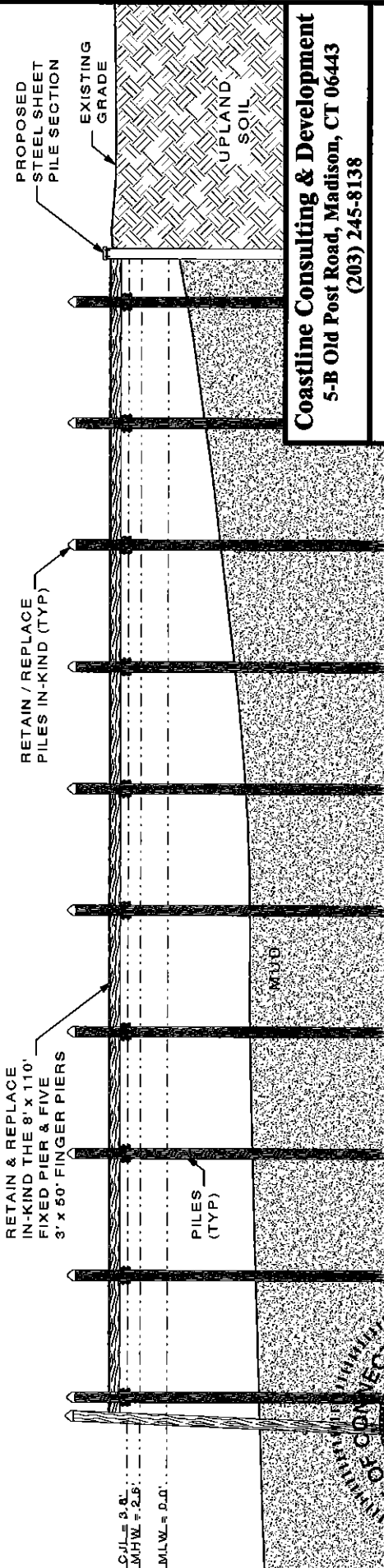
D'



EXISTING CONDITIONS

I

I'



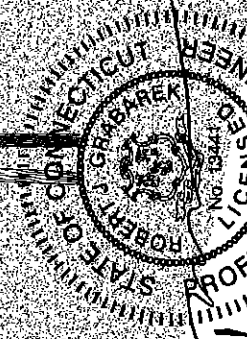
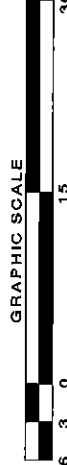
PROPOSED CONDITIONS

Coastline Consulting & Development
5-B Old Post Road, Madison, CT 06443
(203) 245-8138

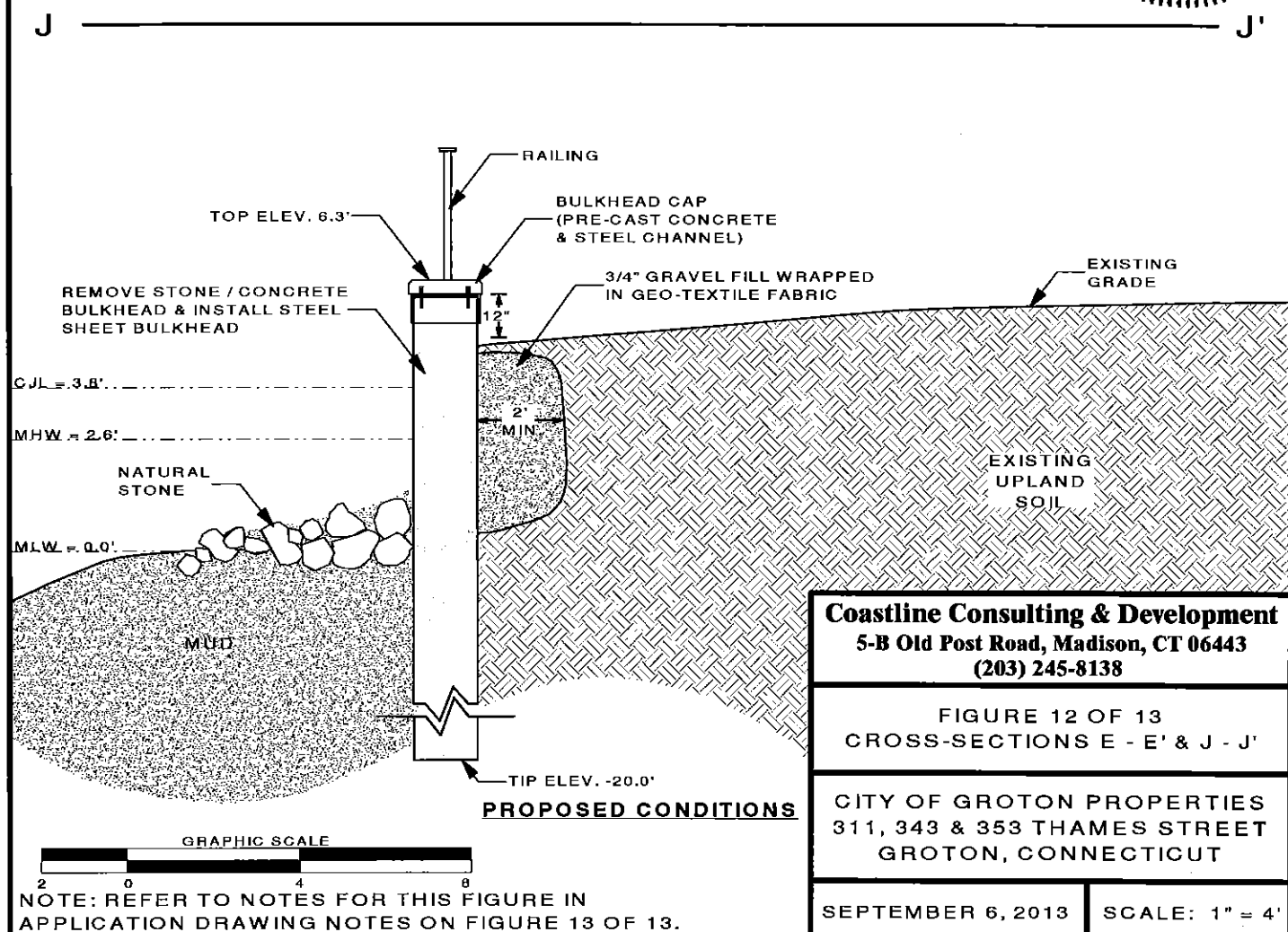
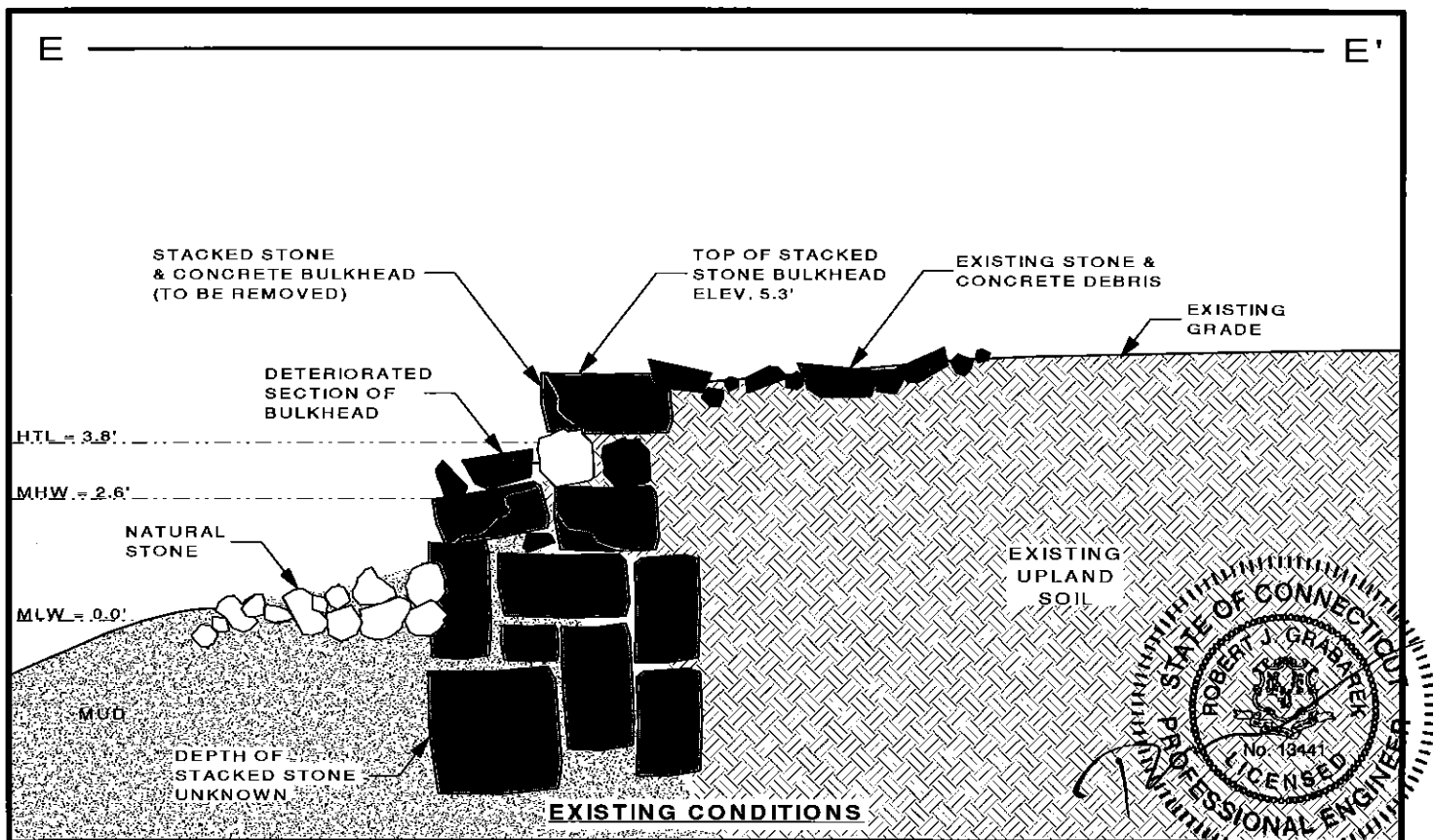
FIGURE 11 OF 13
CROSS-SECTIONS D - D' & I - I'

CITY OF GROTON PROPERTIES
311, 343 & 353 THAMES STREET
GROTON, CONNECTICUT

SEPTEMBER 6, 2013 SCALE: 1" = 15'



NOTES: 1. SEE NOTES FOR THIS FIGURE IN APPLICATION DRAWING NOTES ON FIGURE 13 OF 13.



APPLICATION DRAWING NOTES

FIGURE 1 OF 13 SITE LOCATION MAP

1. MAP TAKEN FROM TOPO, INC., 7.5 MINUTE USGS TOPOGRAPHIC MAPS OF THE NEW LONDON, CONNECTICUT QUADRANGLE, 1960 (PHOTO INSPECTED 1976, PHOTO REVISED 1984).

FIGURE 2 OF 13 SITE PLAN VIEW

1. THE CONDITIONS ARE APPROXIMATE AND ARE BASED UPON GROTON, CT GIS MAPPING AND FIELD OBSERVATIONS.

FIGURES 3-5 OF 13 SITE CONDITIONS

1. THESE APPLICATION DRAWINGS WERE PREPARED FROM RECORDED RESEARCH, OTHER MAPS, FIELD OBSERVATIONS COLLECTED ON 6/12/2009, 7/15/2009, 12/15/2009, 12/19/2011, 4/11/2012, & 9/13/2012 AND OTHER SOURCES.
2. REFERENCE IS MADE TO THE FOLLOWING MAPS:
 - A. A CLASS T-2 SURVEY TITLED "FIGURE 1 OF 2, EXISTING CONDITIONS, TOPOGRAPHIC SURVEY, CITY OF GROTON, POLLUTION ABATEMENT FACILITY, 311 THAMES STREET, GROTON, CONNECTICUT". SCALE 1" = 50', PREPARED BY COASTLINE CONSULTING & DEVELOPMENT, LLC, CERTIFIED BY JAMES NAGLE, L.S. LIC. NO. 15195
 - B. A CLASS T-2 SURVEY TITLED, "FIGURES 1 & 2 OF 2, TOPOGRAPHIC SURVEY, CITY OF GROTON PROPERTY, 343 & 353 THAMES STREET, GROTON, CONNECTICUT" DATED FEBRUARY 9, 2010, SCALE 1" = 40', AND PREPARED BY COASTLINE CONSULTING & DEVELOPMENT, LLC.
 - C. A DRAWING TITLED, "FORT STREET POLLUTION ABATEMENT FACILITY, STORM WATER PLAN, SCALE 1" = 20, DATED 7/27/01, PREPARED BY GROTON UTILITIES".
 - D. A CLASS T-2 SURVEY TITLED "FIGURES 1 & 2 OF 2, TOPOGRAPHIC SURVEY, CITY OF GROTON PROPERTY, 343 & 353 THAMES STREET, GROTON, CONNECTICUT, SCALE 1" = 40', DATED FEBRUARY 9, 2010, AND PREPARED BY COASTLINE CONSULTING & DEVELOPMENT, LLC".
 - E. A CLASS A-2 SURVEY TITLED "PROPERTY BOUNDARY SURVEY OF #343 & #353 THAMES STREET, GROTON, CONNECTICUT. PREPARED FOR CITY OF GROTON. SCALE 1" = 20', DATED APRIL 7, 2006, AND PREPARED BY J. DEMPSEY ASSOCIATES, LLC."
 - F. GROTON PROPERTY VIEWER GIS MAP (<http://grotongis.town.groton.ct.us/ParcelViewer/Startup.asp>) ON JULY 20, 2009.
 - G. AERIAL IMAGE OF GROTON, CT TAKEN FROM GOOGLE EARTH ON JULY 21, 2009.
3. BENCHMARK, TIDE LINES, SOUNDINGS, AND UPLAND ELEVATIONS ARE IN FEET, FIELD-LOCATED BY COASTLINE CONSULTING & DEVELOPMENT, LLC, AND REFERENCED TO THE MEAN LOW WATER (MLW) TIDAL DATUM BASED ON NAVD88 VERTICAL DATUM USING NOAA TIDE STATION #8461490 IN MYSTIC/GROTON, CT. THE CJL (COASTAL JURISDICTION LINE) ELEVATION OF 2.1' NAVD88 IS THE VALUE FOR GROTON, CT AS RECOMMENDED BY THE CONNECTICUT DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION.
4. THIS DRAWING IS FOR PLANNING AND PERMITTING PURPOSES ONLY. THE PROPERTY LINES ARE DEPICTED GRAPHICALLY ONLY, AND DO NOT REPRESENT ANY PROPERTY/BOUNDARY OPINION. NOT ALL IMPROVEMENTS AND FEATURES HAVE BEEN DEPICTED.
5. SITE MAY BE SUBJECT TO AND/OR TOGETHER WITH CERTAIN LITTORAL, RIPARIAN, OR OTHER RIGHTS AS PER THE RECORD MAY APPEAR.
6. ANY UNDERGROUND AND/OR UNDERWATER UTILITY, STRUCTURE, AND FACILITY LOCATIONS DEPICTED AND/OR NOTED HEREON MAY HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM PAROLE TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE LOCATIONS OF WHICH ARE UNKNOWN TO COASTLINE CONSULTING AND DEVELOPMENT, LLC. THE LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION. CALL BEFORE YOU DIG: 1-800-922-4455.

FIGURES 6 -12 OF 13 PROPOSED CONDITIONS & CROSS-SECTIONS

1. THESE APPLICATION DRAWINGS WERE PREPARED FROM RECORDED RESEARCH, OTHER MAPS, FIELD OBSERVATIONS COLLECTED ON 6/12/2009, 7/15/2009, 12/15/2009, 12/19/2011, 4/11/2012, & 9/13/2012, AND OTHER SOURCES.
2. REFERENCE IS MADE TO THE FOLLOWING APPLICATION DRAWINGS:
 - A. "FIGURES 3, 4 & 5 OF 13, SITE CONDITIONS, CITY OF GROTON PROPERTIES, 311, 343 & 353 THAMES STREET, GROTON, CONNECTICUT", SCALE: 1"=80', 50' & 40', PREPARED BY COASTLINE CONSULTING & DEVELOPMENT, LLC.
 - B. "FIGURES 6 & 7 OF 13, PROPOSED CONDITIONS, CITY OF GROTON PROPERTIES, 311, 343 & 353 THAMES STREET, GROTON, CONNECTICUT", SCALE: 1"=80', 50' & 40', PREPARED BY COASTLINE CONSULTING & DEVELOPMENT, LLC.
3. SOUNDINGS AND UPLAND ELEVATIONS ARE IN FEET AND REFERENCED TO THE MEAN LOW WATER (MLW) TIDAL DATUM BASED ON NAVD88.
4. THESE APPLICATION DRAWINGS ARE FOR PLANNING AND PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR BID DOCUMENTS, STRUCTURAL DESIGN, OR CONSTRUCTION. NOT ALL IMPROVEMENTS AND FEATURES HAVE BEEN DEPICTED.

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FIGURE 13 OF 13
APPLICATION DRAWING NOTES

CITY OF GROTON PROPERTIES
311, 343 & 353 THAMES STREET
GROTON, CONNECTICUT

SEPTEMBER 6, 2013

FILE NO: 12-014

FILE COPY ATTACHMENT – LADDER/MFR

FILE NUMBER: NAE-2013-1476

JANUARY 2017
MFR: The applicant requested that this project be reissued under the new 2016 General Permit. The work is eligible for authorization under GP 2 of the new General Permit. The project was not brought back to a JP meeting as the proposed work has not changed.

MAY 2014
The purpose of this project is to replace existing bulkheads at 311, 343 & 353 Thames Street in order to provide shoreline flood and erosion protection at The City of Groton's Municipal Pollution Abatement Facility and City open space parcels. Work also involves the retention and repairs to the existing pier at 343 & 353 Thames Street damaged during Tropical Storm Irene in 2011. The current sheet pile bulkhead has deteriorated to the point where storms overtop the wall and its integrity has been compromised due to erosion. These conditions have created a situation where tidal water routinely penetrates or overtops the bulkhead, leading to sinkholes causing the asphalt slope to undermine on the immediate landward side. The facility's sewage digestion tanks are located only 15' from the top of the asphalt slope, full failure of the slope could undermine the digestion tanks posing as a significant threat to municipal infrastructure, as well as to water quality in the Thames River due to release of untreated effluent.

The project applicant proposes the following activities—expected to last 6 months:

311 Thames Street:

- Oversheeting of 93 LF steel sheetpile bulkhead
- Extension of a 12" drain pipe through the new oversheeting
- Retention of 11 cy (100+/- sf) of stone riprap (eastern corner of property)

343 & 353 Thames Street:

- Retain and repair an existing 8'W x 110'L fixed pier and five 3'W x 50'L finger piers (1,630 sf; 110' beyond MHW), including 3-pile dolphin cluster and two tie-off piles
- Remove/replace in-kind and in-place deteriorated piles, split caps, stringers, and decking on existing pier
- Remove 216 cy (700+/- sf) of stone rip rap
- Remove the existing 248 LF concrete and stone bulkhead, and replace with new 248 LF steel sheetpile bulkhead, within existing footprint, and 11' L return on the southern end.

SIGNIFICANT EVENTS:

- NAE in receipt of notice of tentative determination to approve on 3/13/14
- NAE in receipt of Structures, Dredging, & Fill Permit Application on 12/2/13
 - NDDB review: 2/14/13 Dawn McKay determined no impact to species of concern
 - Shellfish Commission: Edward Martin, Chair--no adverse impact
 - Harbor Mgmt: Frederick Allen, Chair (8/8/13)—consistent



DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO
ATTENTION OF

January 19, 2017

Regulatory Division
CENAE-R-PEB
Permit Number: NAE-2013-1476
CT DEEP File Number: 201306086-MG

City of Groton
Attn: Barbara Goodrich
295 Meridian Street
Groton, CT 06340

Dear Ms. Goodrich:

We have reviewed your previously approved project to replace existing bulkheads at 311, 343 & 353 Thames Street in order to provide shoreline flood and erosion protection at The City of Groton's Municipal Pollution Abatement Facility and City open space parcels. Work also involves the retention and repairs to the existing pier at 343 & 353 Thames Street damaged during Tropical Storm Irene in 2011. This was described in detail in our letter to you dated, March 25, 2014, and is shown on the attached plans, entitled "CITY OF GROTON PROPERTIES 311, 343 & 353 THAMES STREET, GROTON, CONNECTICUT," in 13 sheets dated "September 6, 2013."

We have determined that the proposed activity, which includes a discharge of dredged or fill material into waters or wetlands, will have only minimal individual and cumulative impacts on waters of the United States, including wetlands. Therefore, this work is authorized under General Permit #2 of the attached Federal permit known as the Connecticut General Permits and must be performed in accordance with its terms and conditions and also in compliance with the previous special conditions:

1. The new sheetpile bulkhead shall not encroach more than 18" waterward of the existing bulkhead.
2. No temporary fill is to be placed waterward of the high tide line (HTL), including in tidal wetlands.

You are responsible for complying with all of the GPs' requirements. Please review the attached GPs carefully, in particular the general conditions. You should ensure that whoever does the work fully understands the requirements and that a copy of the permit document and this authorization letter are at the project site throughout the time the work is underway.

This authorization expires on August 19, 2021, unless the GPs are modified, suspended, or revoked before then. You must commence or be under contract to commence the work authorized herein by that expiration date and complete the work by August 19, 2022. If not, you must contact this office to determine the need for further authorization before beginning or

continuing the activity. We recommend you contact us *before* this permit expires to discuss a permit reissuance.

If you change the plans or construction methods for work within our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them.

This authorization requires you to complete and return the attached **Work Start Notification Form** to this office at least two weeks before the anticipated starting date.

This determination becomes valid only after the Connecticut Department of Energy & Environmental Protection (DEEP) issues or waives the following applicable State permits: Certificate of Permission (COP); General Permit (LIS-GP); Tidal Wetlands Permit; Structures and Dredging and Filling Permit; Water Quality Certification (WQC) as required under Section 401 of the Clean Water Act; and/or a Section 307 Coastal Zone Management Act consistency determination. In the event the DEEP denies any of these permits, this determination becomes null and void. The address of the DEEP office for your area is provided in the attached GP.

This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law, as listed in Section 2 of the GPs. Performing work not specifically authorized by this determination or failing to comply with any special condition(s) provided above or all the terms and conditions of the GPs may subject you to the enforcement provisions of our regulations.

We continually strive to improve our customer service. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey.

Please contact Lindsay Flieger, of my staff, at (978) 318-8656 if you have any questions.

Sincerely,



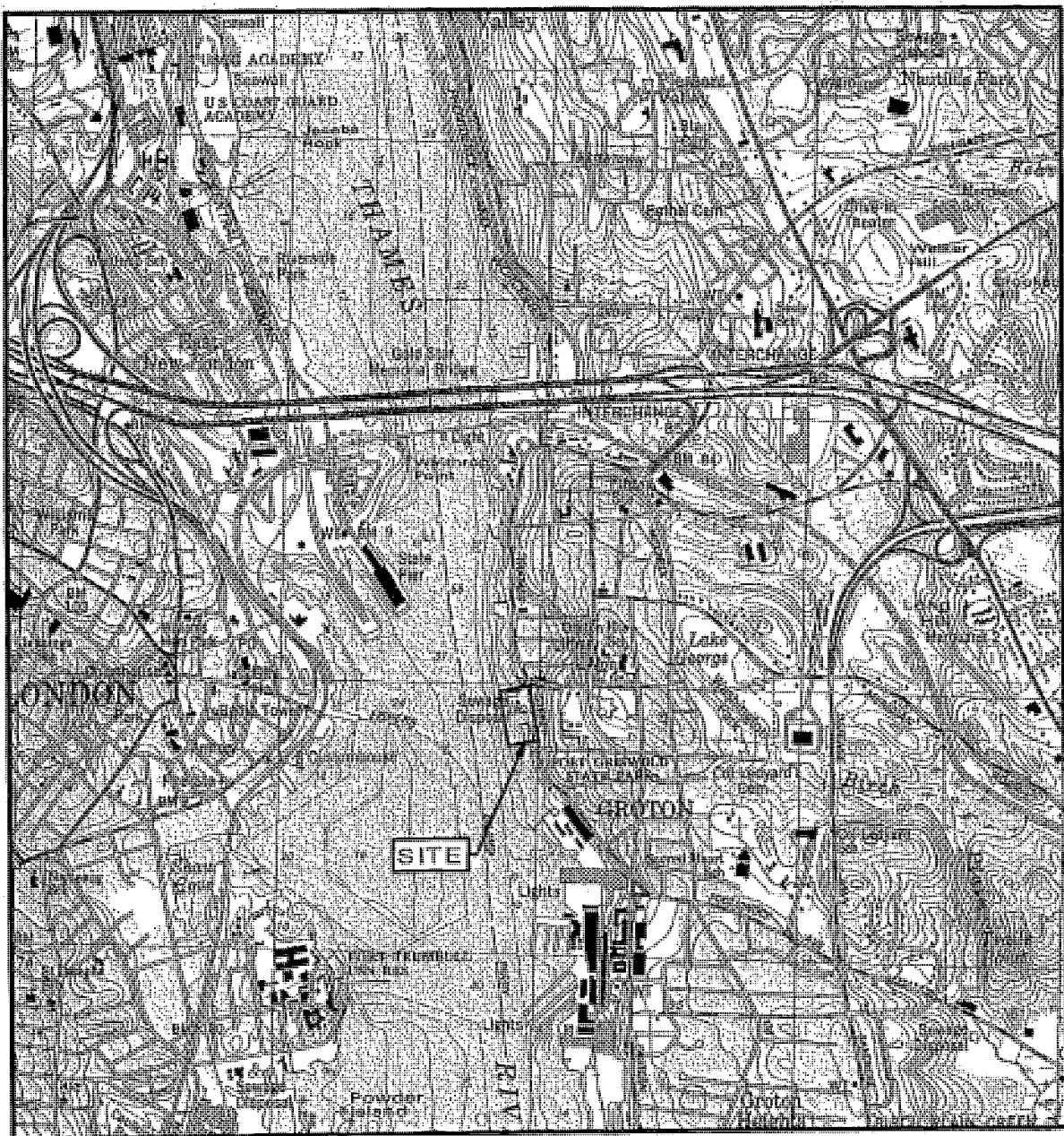
Robert J. DeSista
Chief, Permits & Enforcement Branch
Regulatory Division

Attachments

Copy Furnished:

CT DEEP, Chief, Land & Water Resources Division – via email

David Provencher, Coastline Consulting and Development- via email



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 (203) 245-8138

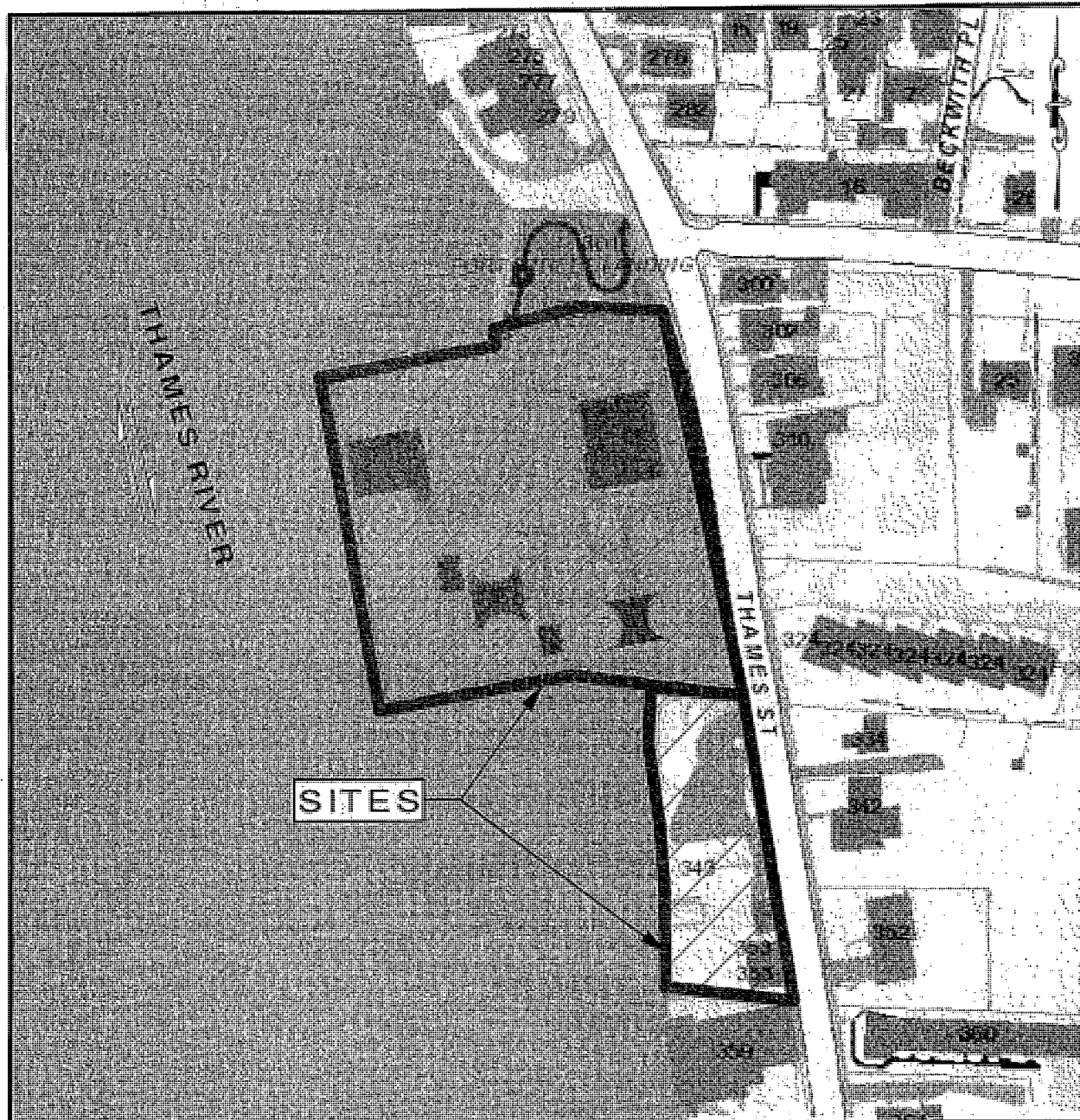
FIGURE 1 OF 13
 SITE LOCATION MAP

CITY OF GROTON PROPERTIES
 311, 343 & 353 THAMES STREET
 GROTON, CONNECTICUT

NOTE: REFER TO NOTES FOR THIS FIGURE IN
 APPLICATION DRAWING NOTES ON FIGURE 13 OF 13.

SEPTEMBER 6, 2013

SCALE: 1" = 12,000'



NOTE: REFER TO NOTES FOR THIS FIGURE IN
APPLICATION DRAWING NOTES ON FIGURE 13 OF 13.

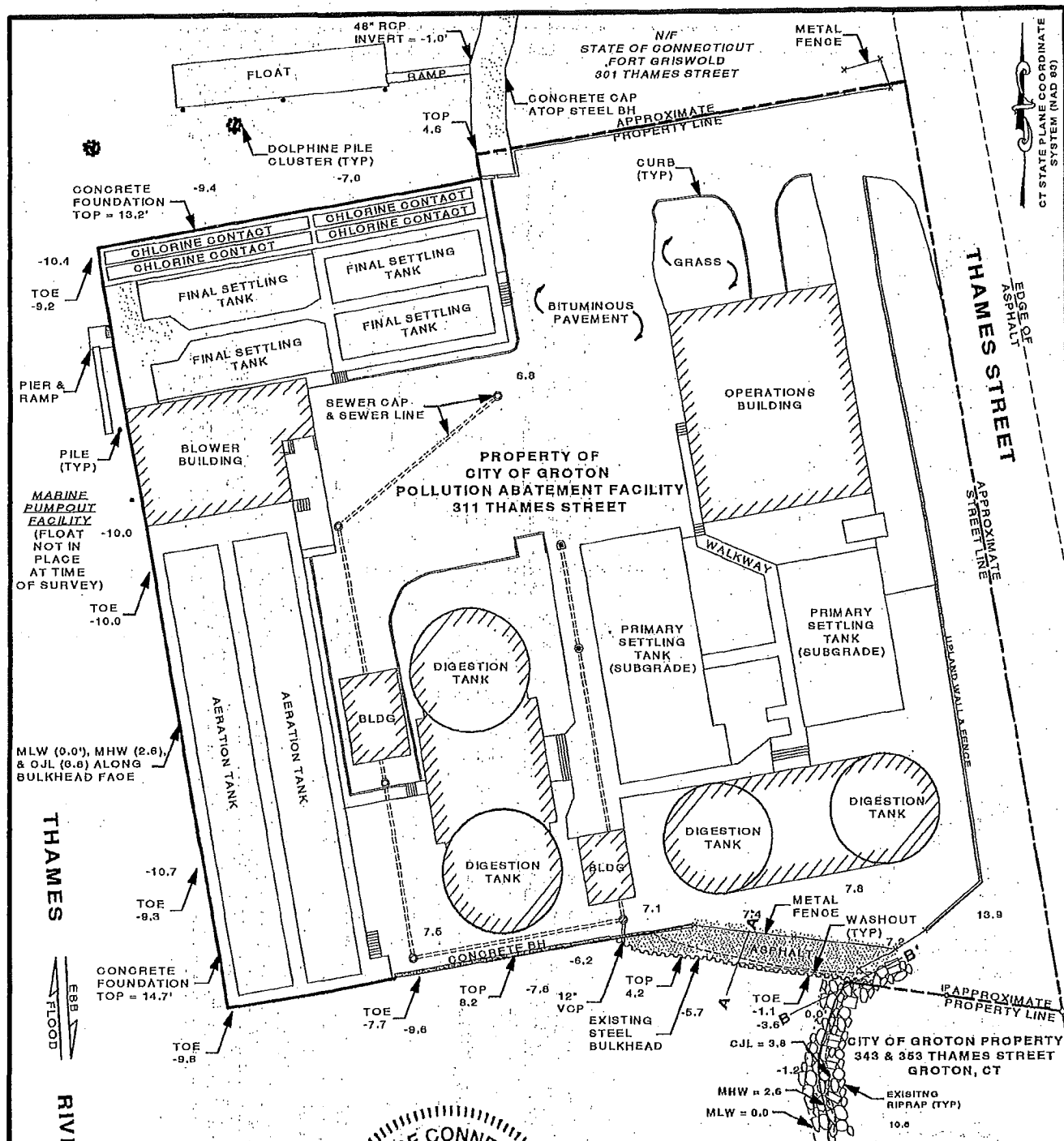
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(203) 245-8138

FIGURE 2 OF 13
SITE PLAN VIEW

CITY OF GROTON PROPERTIES
311, 343 & 353 THAMES STREET
GROTON, CONNECTICUT

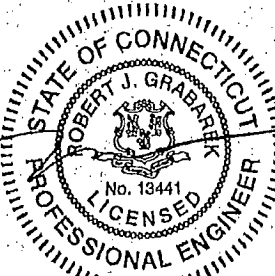
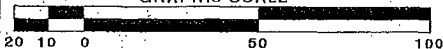
SEPTEMBER 6, 2013

SCALE: 1" = 200'



LEGEND

MLW	= MEAN LOW WATER
MHW	= MEAN HIGH WATER
CUL	= COASTAL JURISDICTION LINE
TYP	= TYPICAL
N/F	= NOW OR FORMERLY
BH	= BULKHEAD
IP	= IRON PIPE/PIN
-2.2	= SOUNDING IN FEET
12.7	= SPOT ELEVATION IN FEET
RGP	= REINFORCED CONCRETE PIPE
VCP	= VITRIFIED CLAY PIPE



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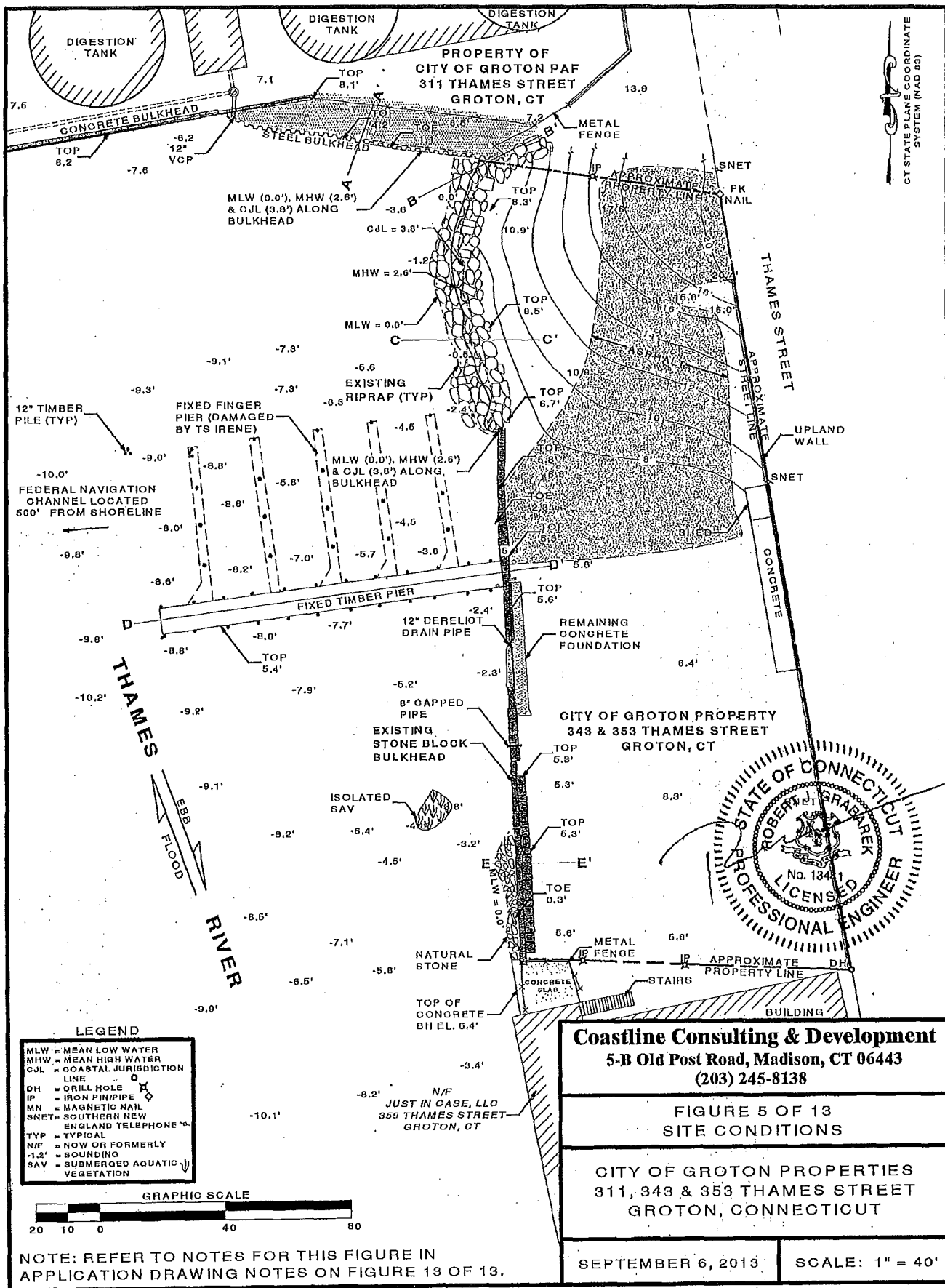
FIGURE 4 OF 13
SITE CONDITIONS

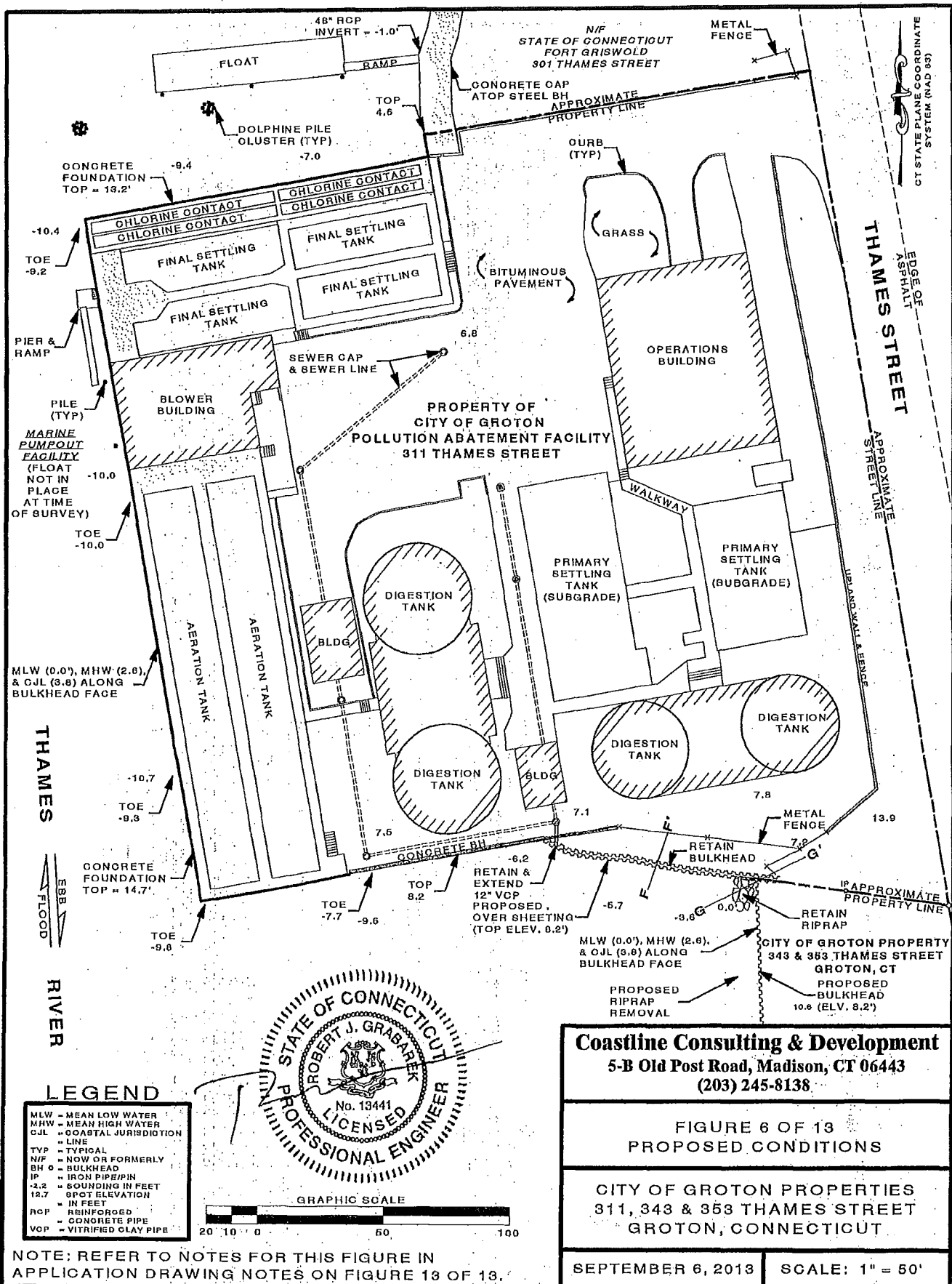
CITY OF GROTON PROPERTIES
311, 345 & 353 THAMES STREET
GROTON, CONNECTICUT

SEPTEMBER 6, 2013

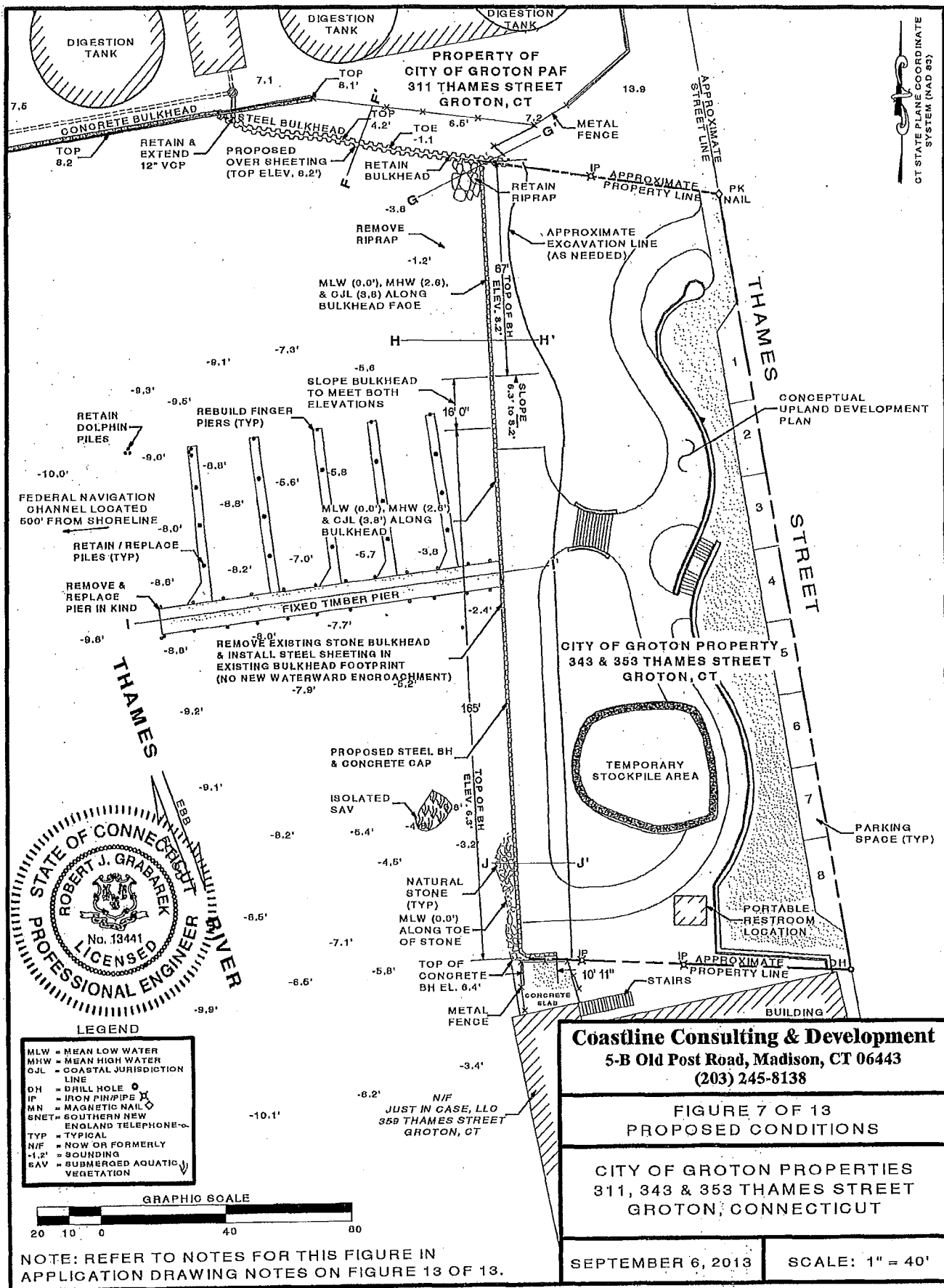
SCALE: 1" = 50'

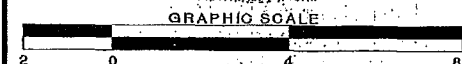
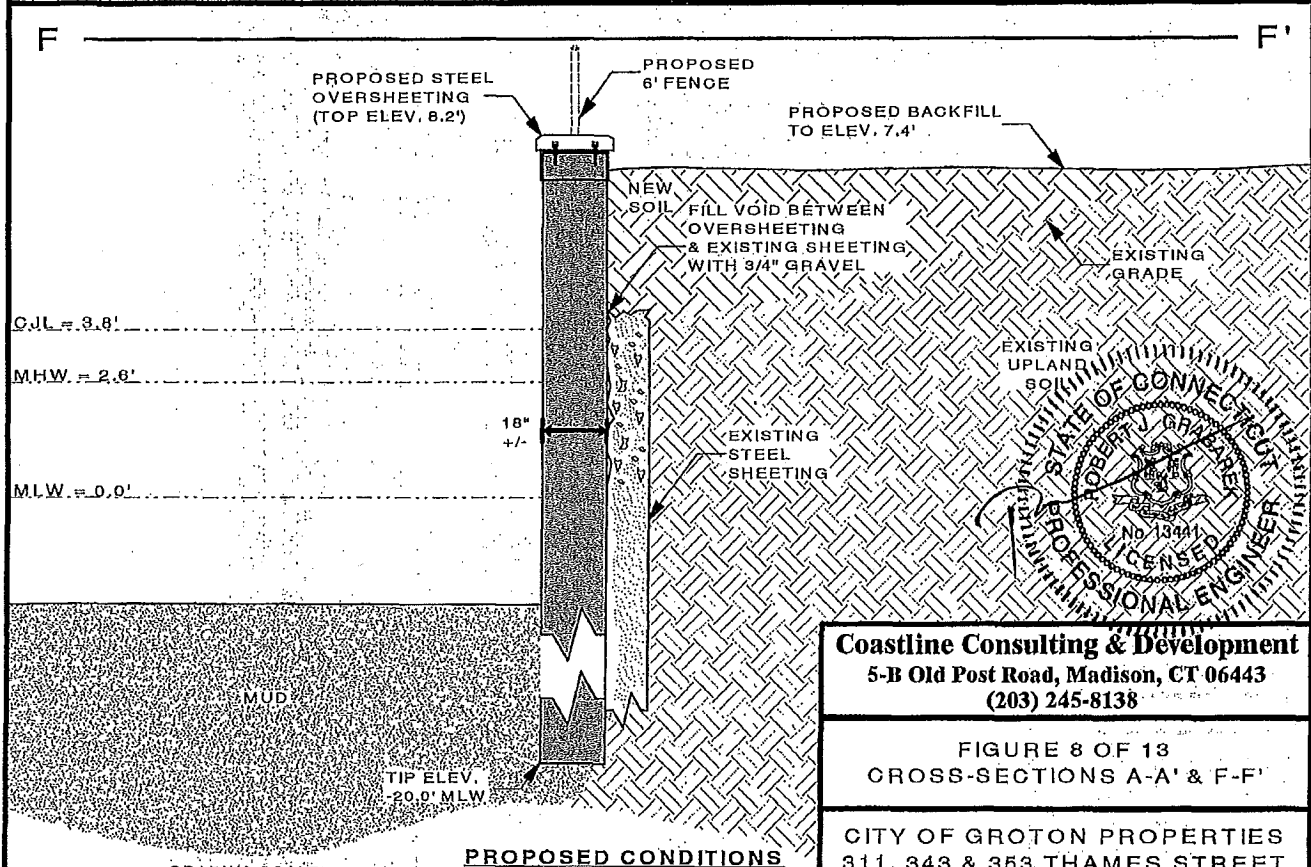
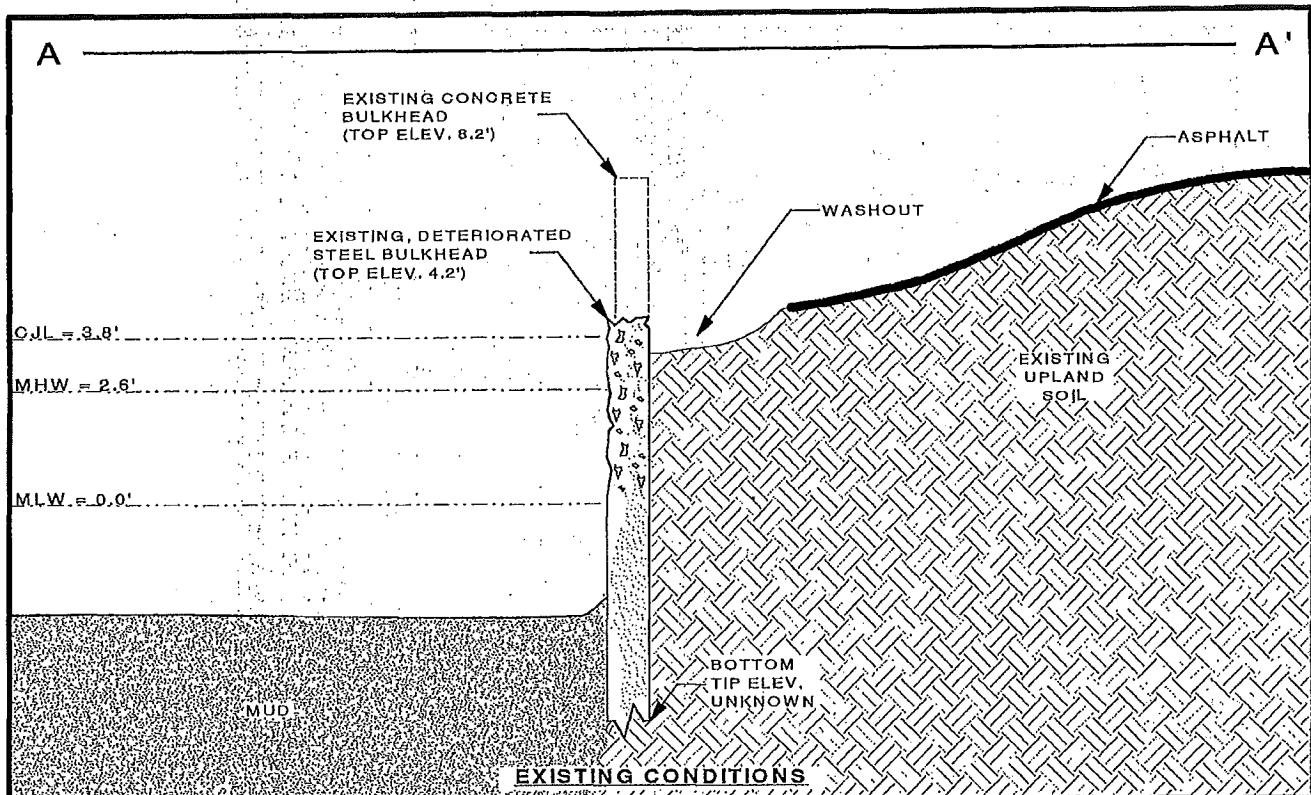
NOTE: REFER TO NOTES FOR THIS FIGURE IN
APPLICATION DRAWING NOTES ON FIGURE 13 OF 13.





STATE PLANE COORDINATE
SYSTEM (NAD 83)





NOTE: REFER TO NOTES FOR THIS FIGURE IN APPLICATION DRAWING NOTES ON FIGURE 13 OF 13.

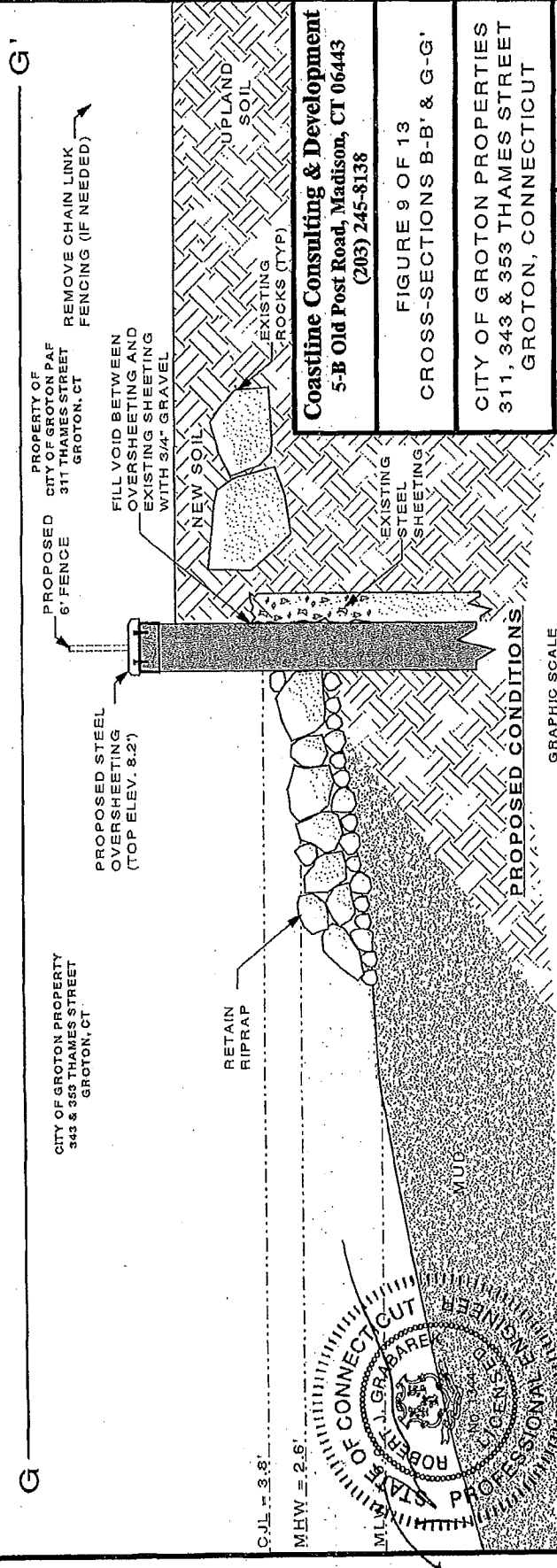
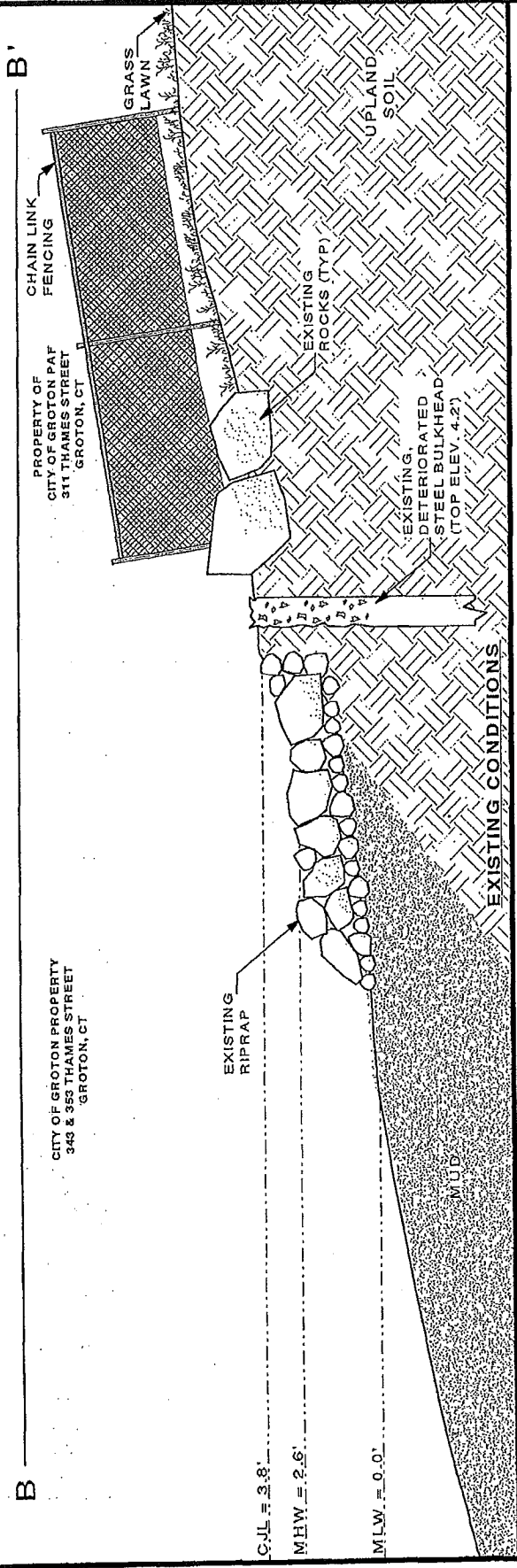
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FIGURE 8 OF 13
 CROSS-SECTIONS A-A' & F-F'

CITY OF GROTON PROPERTIES
 311, 343 & 353 THAMES STREET
 GROTON, CONNECTICUT

SEPTEMBER 6, 2013 SCALE: 1" = 4'





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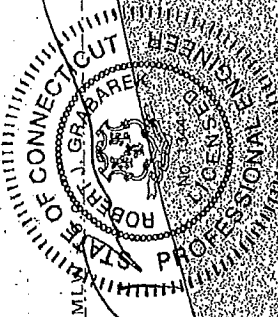
FIGURE 9 OF 13
 CROSS-SECTIONS B-B' & G-G'

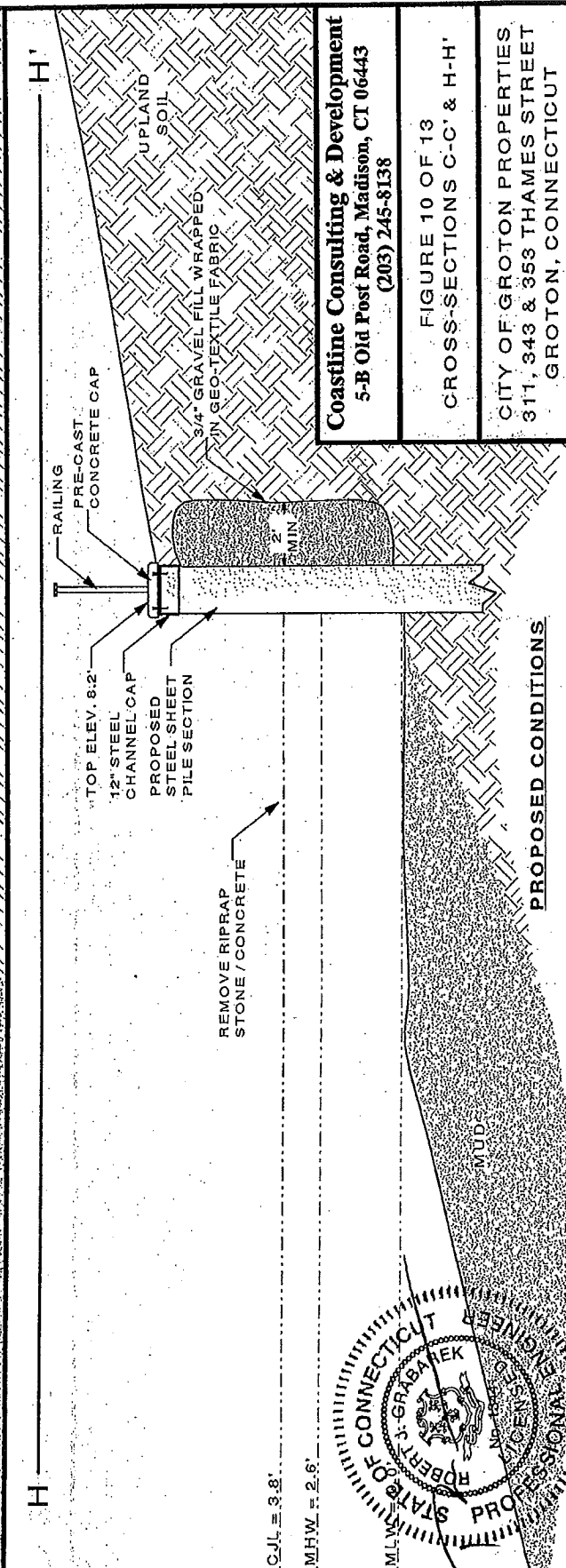
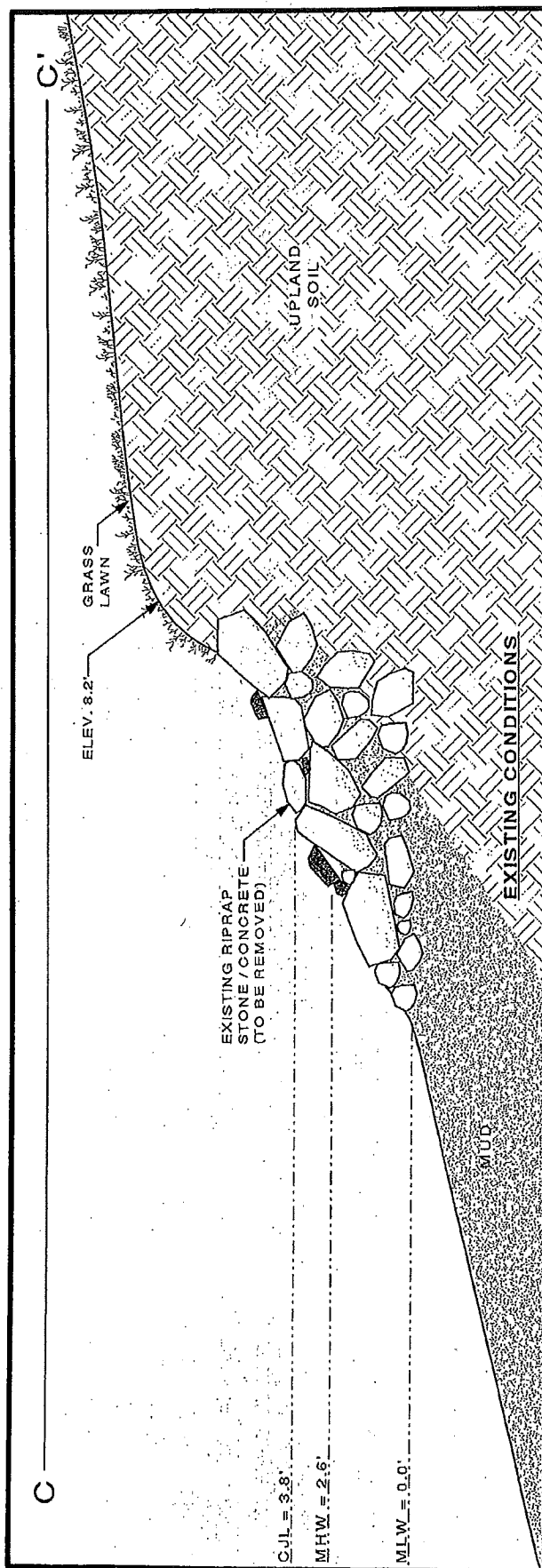
CITY OF GROTON PROPERTIES
 311, 343 & 353 THAMES STREET
 GROTON, CONNECTICUT

SEPTEMBER 6, 2013 SCALE: 1" = 5'



NOTE: REFER TO NOTES FOR THIS FIGURE IN APPLICATION DRAWING NOTES ON FIGURE 13 OF 13.



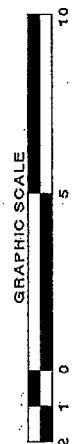


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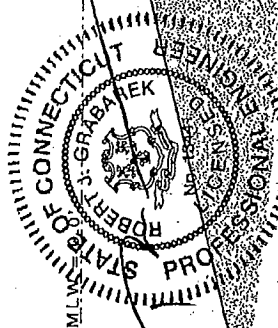
FIGURE 10 OF 13
 CROSS-SECTIONS C-C' & H-H'

CITY OF GROTON PROPERTIES
 311, 343 & 353 THAMES STREET
 GROTON, CONNECTICUT

SEPTEMBER 6, 2013 SCALE: 1" = 5'



NOTE: REFER TO NOTES FOR THIS FIGURE IN APPLICATION DRAWING NOTES ON FIGURE 13 OF 13.



D

D'

EXISTING 8' x 110'
FIXED PIER & FIVE
3' x 50' FINGER PIERS

CUL = 3.8'
MHW = 2.6'
MLW = 0.0'

EXISTING
PILES
(TYP)

EXISTING
STONE
BULKHEAD
EXISTING
GRADE

UPLAND
SOIL

EXISTING CONDITIONS

I

I'

RETAIN & REPLACE
IN-KIND THE 8' x 110'
FIXED PIER & FIVE
3' x 50' FINGER PIERS

CUL = 3.8'
MHW = 2.6'
MLW = 0.0'

PILES
(TYP)

RETAIN / REPLACE
PILES IN-KIND (TYP)

PROPOSED
STEEL SHEET
PILE SECTION
EXISTING
GRADE

UPLAND
SOIL

PROPOSED CONDITIONS



NOTE: REFER TO NOTES FOR THIS FIGURE IN
APPLICATION DRAWING NOTES ON FIGURE 13 OF 13.

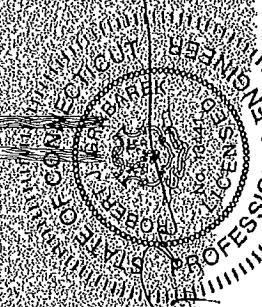
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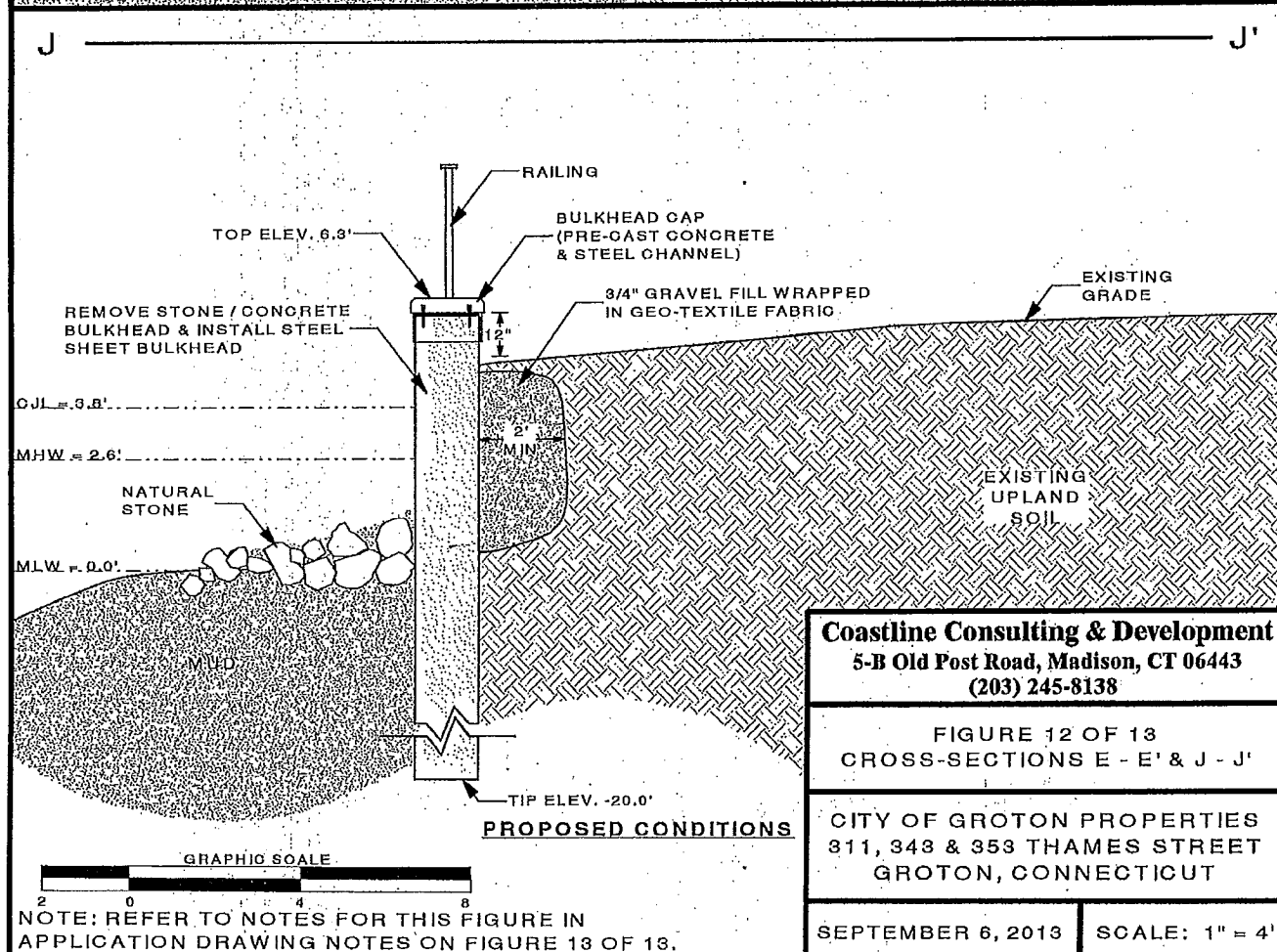
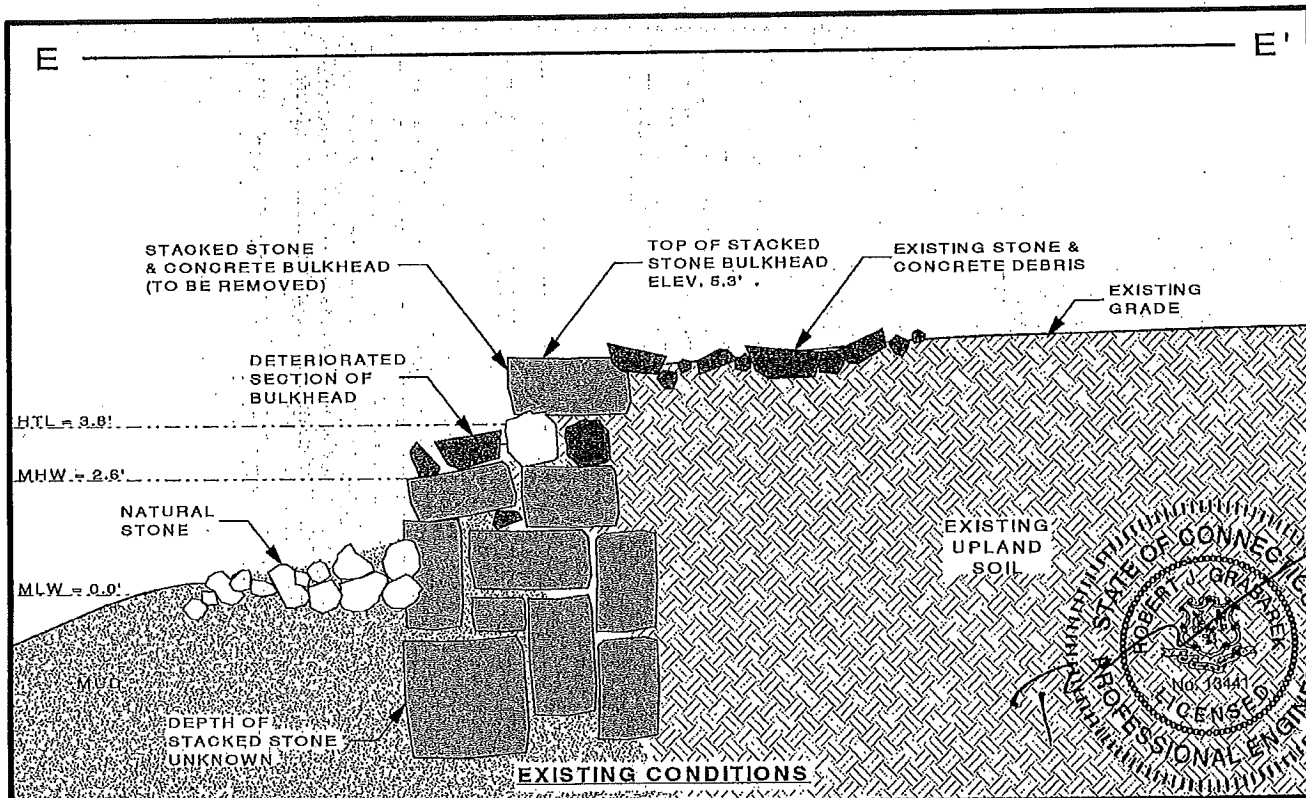
FIGURE 11 OF 13
CROSS-SECTIONS D - D' & I - I'

CITY OF GROTON PROPERTIES
311, 343 & 353 THAMES STREET
GROTON, CONNECTICUT

SEPTEMBER 6, 2013

SCALE: 1" = 15'





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FIGURE 12 OF 13
 CROSS-SECTIONS E - E' & J - J'

CITY OF GROTON PROPERTIES
 311, 343 & 353 THAMES STREET
 GROTON, CONNECTICUT

SEPTEMBER 6, 2013

SCALE: 1" = 4'

APPLICATION DRAWING NOTES

FIGURE 1 OF 13 SITE LOCATION MAP

1. MAP TAKEN FROM TOPO, INC., 7.5 MINUTE USGS TOPOGRAPHIC MAPS OF THE NEW LONDON, CONNECTICUT QUADRANGLE, 1960 (PHOTO INSPECTED 1976, PHOTO REVISED 1984).

FIGURE 2 OF 13 SITE PLAN VIEW

1. THE CONDITIONS ARE APPROXIMATE AND ARE BASED UPON GROTON, CT GIS MAPPING AND FIELD OBSERVATIONS.

FIGURES 3-5 OF 13 SITE CONDITIONS

1. THESE APPLICATION DRAWINGS WERE PREPARED FROM RECORDED RESEARCH, OTHER MAPS, FIELD OBSERVATIONS COLLECTED ON 6/12/2009, 7/15/2009, 12/15/2009, 12/19/2011, 4/11/2012, & 9/13/2012 AND OTHER SOURCES.
2. REFERENCE IS MADE TO THE FOLLOWING MAPS:
 - A. A CLASS T-2 SURVEY TITLED "FIGURE 1 OF 2, EXISTING CONDITIONS, TOPOGRAPHIC SURVEY, CITY OF GROTON, POLLUTION ABATEMENT FACILITY, 311 THAMES STREET, GROTON, CONNECTICUT". SCALE 1" = 50', PREPARED BY COASTLINE CONSULTING & DEVELOPMENT, LLC, CERTIFIED BY JAMES NAGLE, L.S. LIC. NO. 15195
 - B. A CLASS T-2 SURVEY TITLED, "FIGURES 1 & 2 OF 2, TOPOGRAPHIC SURVEY, CITY OF GROTON PROPERTY, 343 & 353 THAMES STREET, GROTON, CONNECTICUT" DATED FEBRUARY 9, 2010, SCALE 1" = 40', AND PREPARED BY COASTLINE CONSULTING & DEVELOPMENT, LLC.
 - C. A DRAWING TITLED, "FORT STREET POLLUTION ABATEMENT FACILITY, STORM WATER PLAN, SCALE 1" = 20, DATED 7/27/01, PREPARED BY GROTON UTILITIES".
 - D. A CLASS T-2 SURVEY TITLED "FIGURES 1 & 2 OF 2, TOPOGRAPHIC SURVEY, CITY OF GROTON PROPERTY, 343 & 353 THAMES STREET, GROTON, CONNECTICUT, SCALE 1" = 40', DATED FEBRUARY 9, 2010, AND PREPARED BY COASTLINE CONSULTING & DEVELOPMENT, LLC".
 - E. A CLASS A-2 SURVEY TITLED "PROPERTY BOUNDARY SURVEY OF #343 & #353 THAMES STREET, GROTON, CONNECTICUT. PREPARED FOR CITY OF GROTON. SCALE 1" = 20', DATED APRIL 7, 2006, AND PREPARED BY J. DEMPSEY ASSOCIATES, LLC."
 - F. GROTON PROPERTY VIEWER GIS MAP (<http://grotongis.town.groton.ct.us/ParcelViewer/Startup.asp>) ON JULY 20, 2009.
 - G. AERIAL IMAGE OF GROTON, CT TAKEN FROM GOOGLE EARTH ON JULY 21, 2009.
3. BENCHMARK, TIDE LINES, SOUNDINGS, AND UPLAND ELEVATIONS ARE IN FEET, FIELD-LOCATED BY COASTLINE CONSULTING & DEVELOPMENT, LLC, AND REFERENCED TO THE MEAN LOW WATER (MLW) TIDAL DATUM BASED ON NAVD88 VERTICAL DATUM USING NOAA TIDE STATION #8461490 IN MYSTIC/GROTON, CT. THE CJL (COASTAL JURISDICTION LINE) ELEVATION OF 2.1' NAVD88 IS THE VALUE FOR GROTON, CT AS RECOMMENDED BY THE CONNECTICUT DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION.
4. THIS DRAWING IS FOR PLANNING AND PERMITTING PURPOSES ONLY. THE PROPERTY LINES ARE DEPICTED GRAPHICALLY ONLY, AND DO NOT REPRESENT ANY PROPERTY/BOUNDARY OPINION. NOT ALL IMPROVEMENTS AND FEATURES HAVE BEEN DEPICTED.
5. SITE MAY BE SUBJECT TO AND/OR TOGETHER WITH CERTAIN LITTORAL, RIPARIAN, OR OTHER RIGHTS AS PER THE RECORD MAY APPEAR.
6. ANY UNDERGROUND AND/OR UNDERWATER UTILITY, STRUCTURE, AND FACILITY LOCATIONS DEPICTED AND/OR NOTED HEREON MAY HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM PAROLE TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE LOCATIONS OF WHICH ARE UNKNOWN TO COASTLINE CONSULTING AND DEVELOPMENT, LLC. THE EXISTENCE AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION. CALL BEFORE YOU DIG; 1-800-922-4455.

FIGURES 6 -12 OF 13 PROPOSED CONDITIONS & CROSS-SECTIONS

1. THESE APPLICATION DRAWINGS WERE PREPARED FROM RECORDED RESEARCH, OTHER MAPS, FIELD OBSERVATIONS COLLECTED ON 6/12/2009, 7/15/2009, 12/15/2009, 12/19/2011, 4/11/2012, & 9/13/2012, AND OTHER SOURCES.
2. REFERENCE IS MADE TO THE FOLLOWING APPLICATION DRAWINGS:
 - A. "FIGURES 3, 4 & 5 OF 13, SITE CONDITIONS, CITY OF GROTON PROPERTIES, 311, 343 & 353 THAMES STREET, GROTON, CONNECTICUT", SCALE: 1"=80', 50' & 40', PREPARED BY COASTLINE CONSULTING & DEVELOPMENT, LLC.
 - B. "FIGURES 6 & 7 OF 13, PROPOSED CONDITIONS, CITY OF GROTON PROPERTIES, 311, 343 & 353 THAMES STREET, GROTON, CONNECTICUT", SCALE: 1"=80', 50' & 40', PREPARED BY COASTLINE CONSULTING & DEVELOPMENT, LLC.
3. SOUNDINGS AND UPLAND ELEVATIONS ARE IN FEET AND REFERENCED TO THE MEAN LOW WATER (MLW) TIDAL DATUM BASED ON NAVD88.
4. THESE APPLICATION DRAWINGS ARE FOR PLANNING AND PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR BID DOCUMENTS, STRUCTURAL DESIGN, OR CONSTRUCTION. NOT ALL IMPROVEMENTS AND FEATURES HAVE BEEN DEPICTED.

Coastline Consulting & Development
5-B Old Post Road, Madison CT 06443
(203) 245-8138

FIGURE 13 OF 13
APPLICATION DRAWING NOTES

CITY OF GROTON PROPERTIES
311, 343 & 353 THAMES STREET
GROTON, CONNECTICUT

SEPTEMBER 6, 2013

FILE NO: 12-014

Appendix B

Goderre, Dennis

From: Grzywinski, Micheal <Micheal.Grzywinski@ct.gov>
Sent: Wednesday, May 1, 2019 1:55 PM
To: 'David Provencher'
Cc: Goderre, Dennis
Subject: RE: Thames Street Marina

Importance: High

David, my apologies for the delay. The revised plan looks good and is consistent with our previous discussion for COP eligibility. Please let me know if there are further questions. Micheal -

Micheal P. Grzywinski
Senior Environmental Analyst
Land & Water Resources Division
Regulatory Section - Southeast
Bureau of Water Protection & Land Reuse
Connecticut Department of Energy & Environmental Protection
79 Elm Street, Hartford, CT 06106-5127
Direct: 860.424.3674 | Email: micheal.grzywinski@ct.gov
Office Hours: Monday-Thursday, 7:30am - 4:45pm



www.ct.gov/deep

*Conserving, improving and protecting our natural resources and environment;
Ensuring a clean, affordable, reliable, and sustainable energy supply.*

From: David Provencher [mailto:david@coastlineconsulting-ct.com]
Sent: Thursday, March 28, 2019 8:53 AM
To: Grzywinski, Micheal <Micheal.Grzywinski@ct.gov>
Cc: 'Goderre, Dennis' <goderred@cityofgroton-ct.gov>
Subject: Thames Street Marina

Hi Micheal,

Here is an updated preliminary layout based on our discussion on Monday. We would appreciate your review and comment.

Thanks very much.

Dave

David R. Provencher

Project Manager

Coastline Consulting & Development, LLC

57-B East Industrial Road

Branford, CT 06405

Phone: 203-433-4486

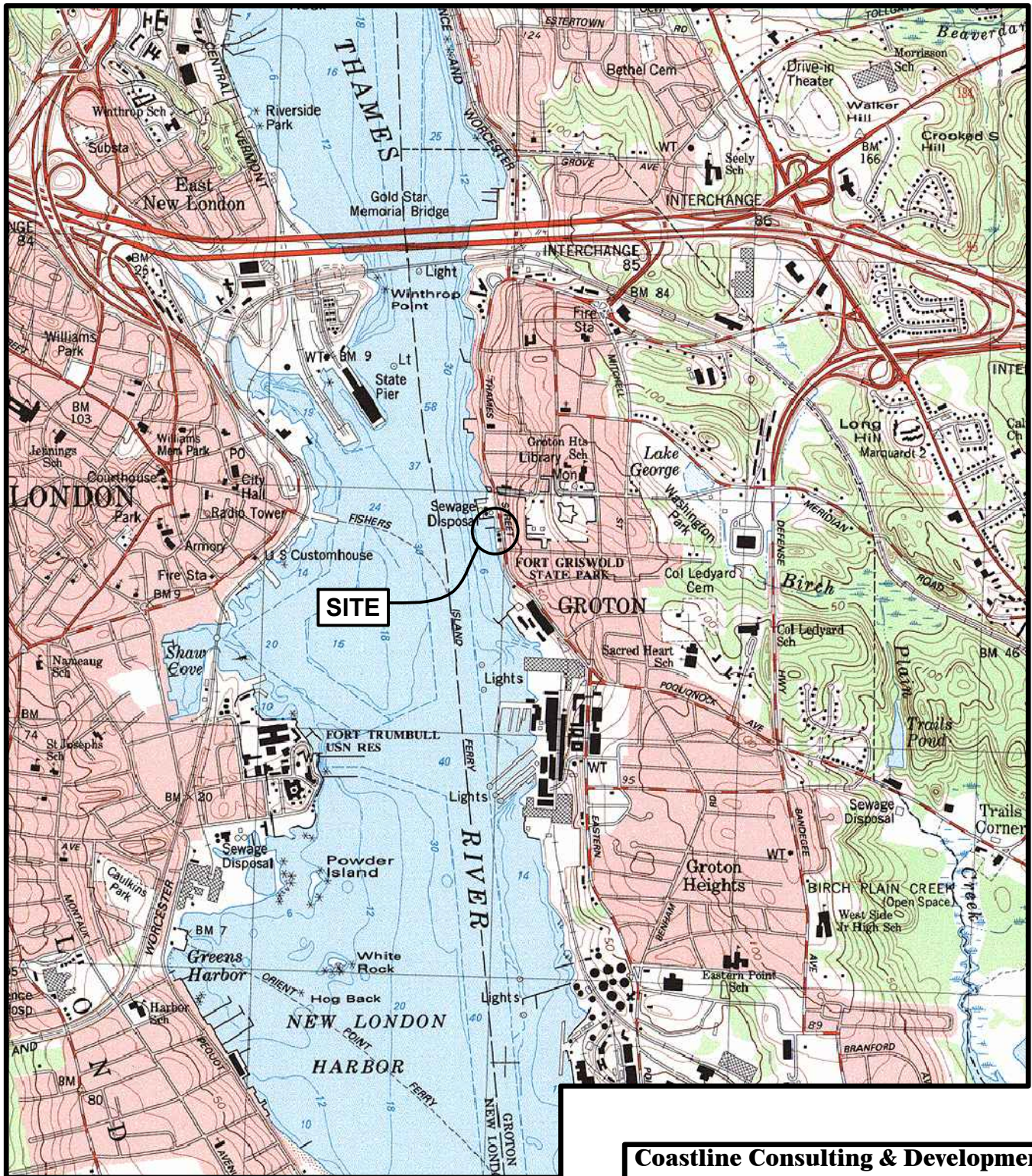
Cell: 203-889-6183

Fax: 203-208-2241

david@coastlineconsulting-ct.com

www.coastlineconsulting-ct.com

Appendix C



Coastline Consulting & Development
 57-B East Industrial Road, Branford, CT 06405
 (203) 433-4486

SITE LOCATION MAP
 THAMES STREET HARBOR MARINA

CITY OF GROTON
 343 THAMES STREET
 GROTON, CONNECTICUT

NOTE: REFER TO NOTES FOR THIS SHEET IN
 APPLICATION DRAWING NOTES ON SHEET 8 OF 8.

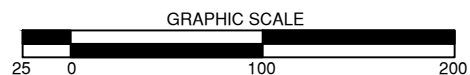
6-4-2019

SCALE: 1 = 24000

SHEET 1 OF 8



NOTE: REFER TO NOTES FOR THIS SHEET IN
APPLICATION DRAWING NOTES ON SHEET 8 OF 8.



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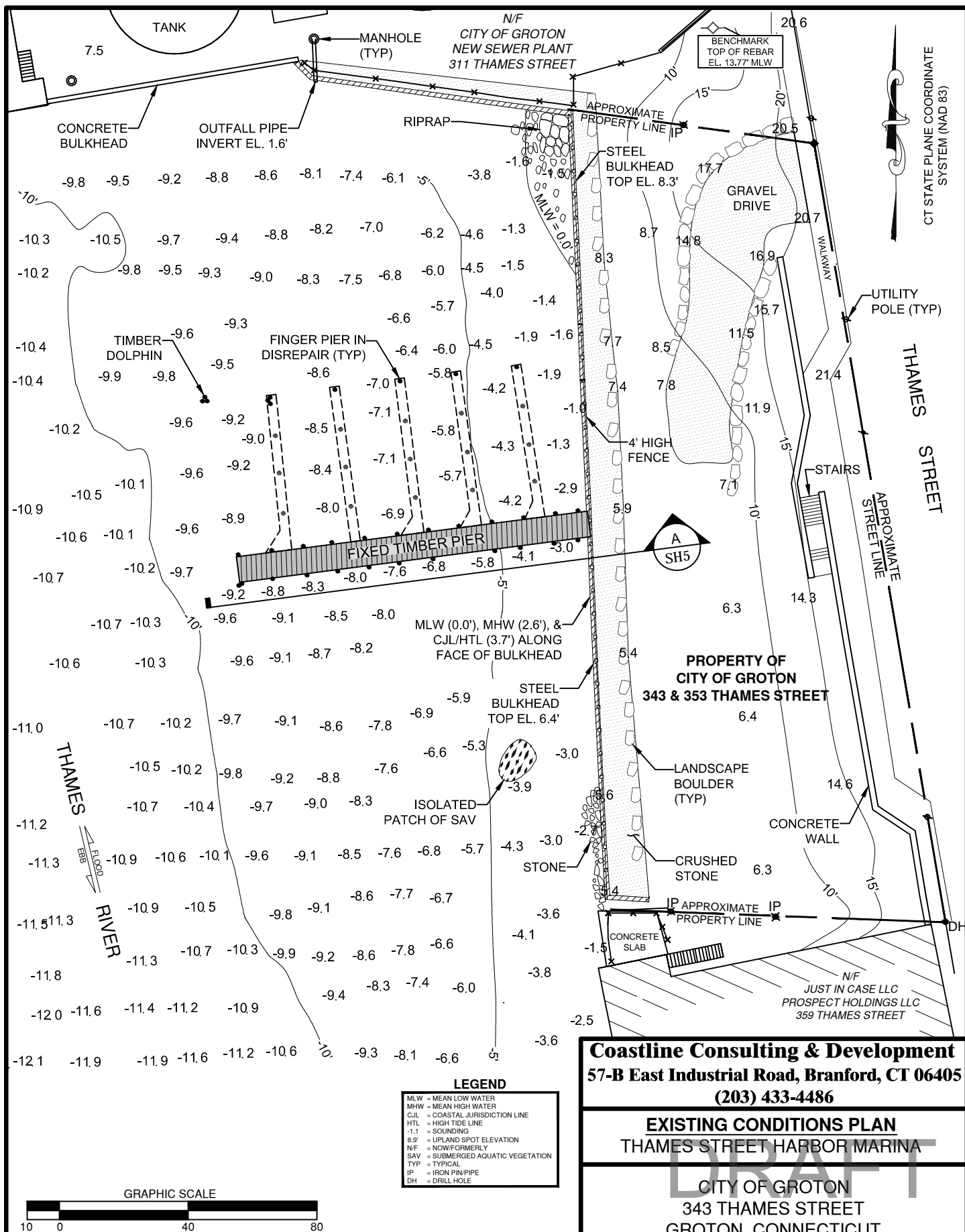
ASSESSOR'S MAP
THAMES STREET HARBOR MARINA

CITY OF GROTON
343 THAMES STREET
GROTON, CONNECTICUT

6-4-2019

SCALE: 1" = 100'

SHEET 2 OF 8



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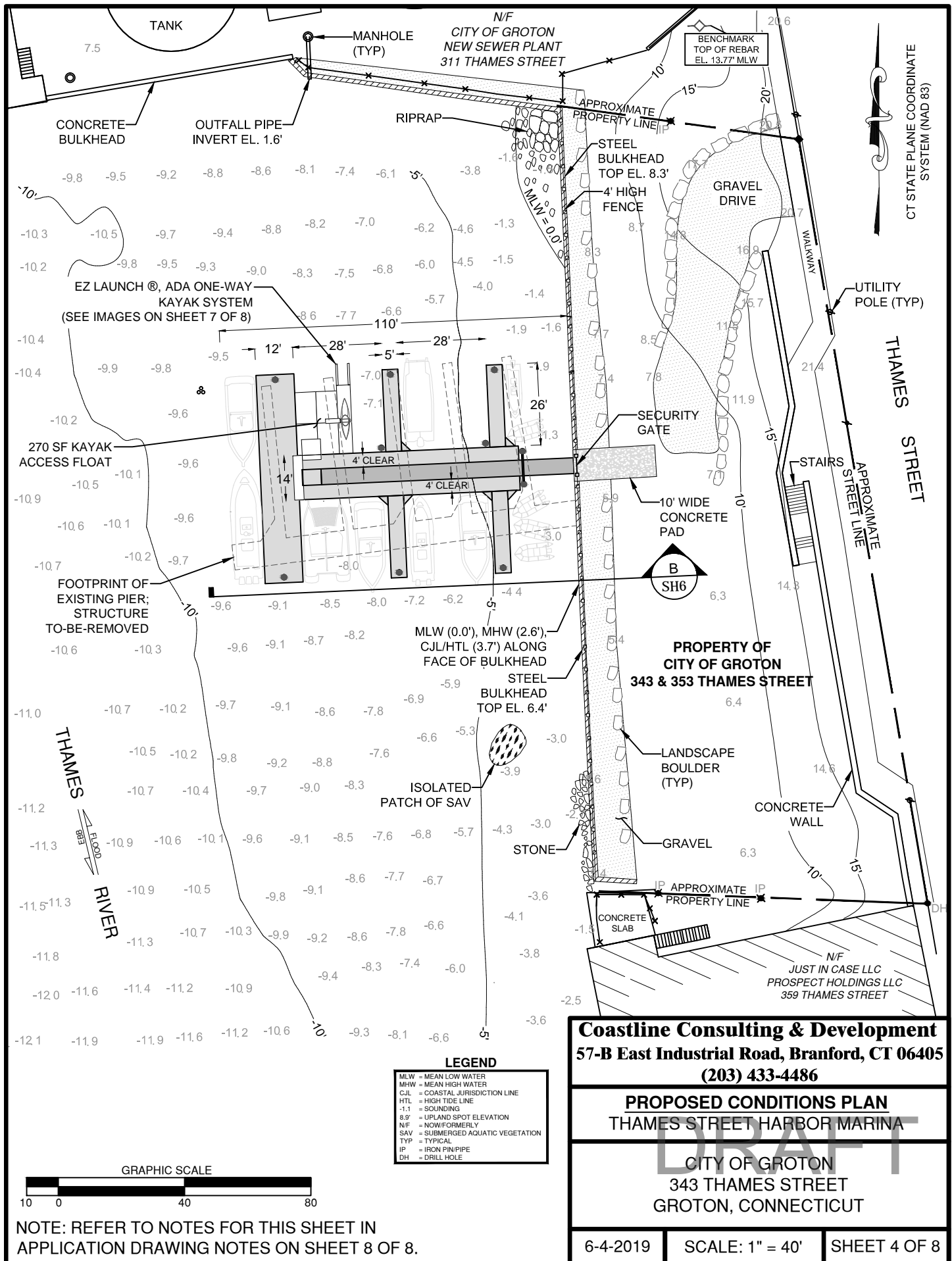
EXISTING CONDITIONS PLAN
 THAMES STREET HARBOR MARINA

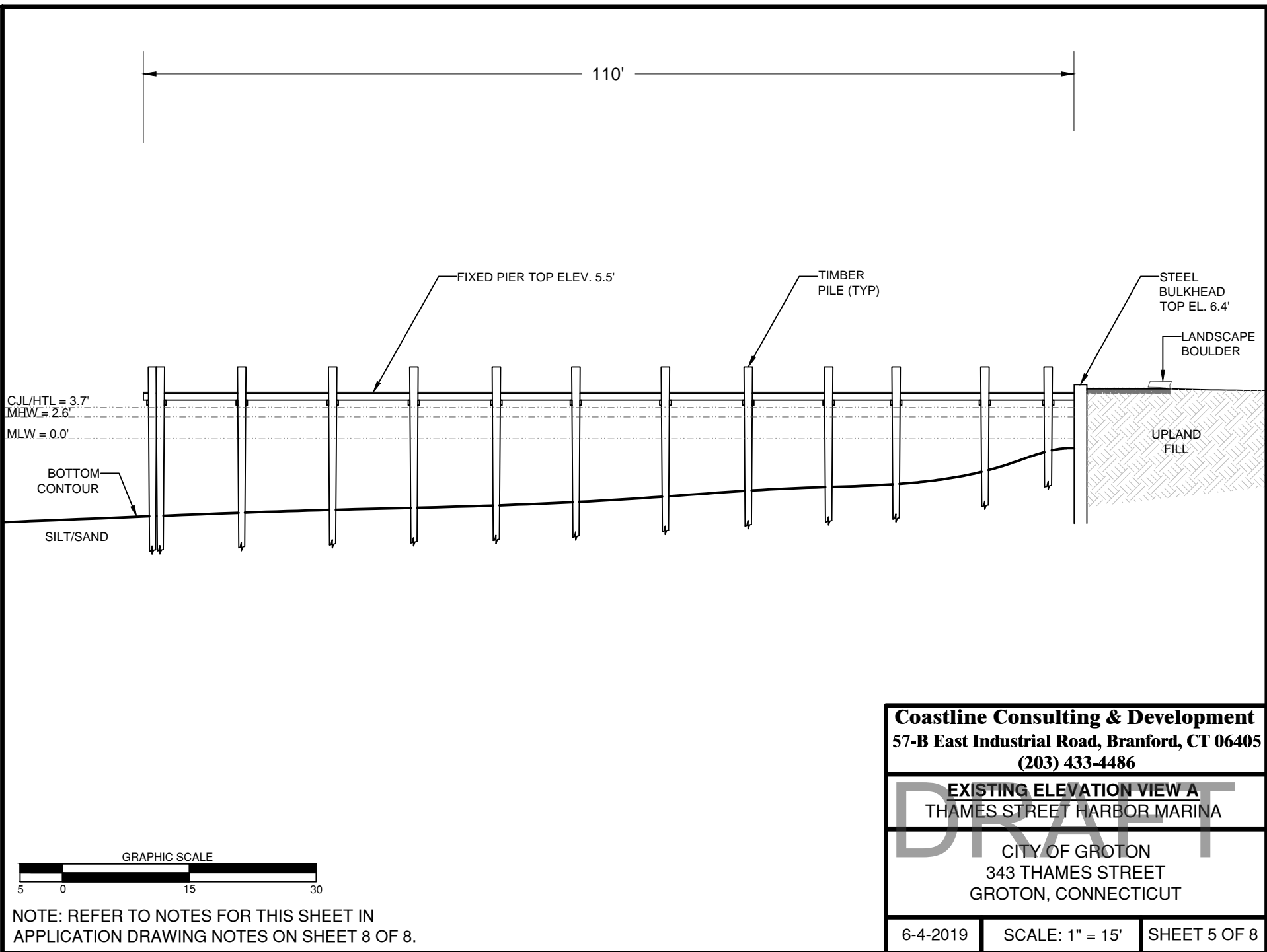
CITY OF GROTON
 343 THAMES STREET
 GROTON, CONNECTICUT

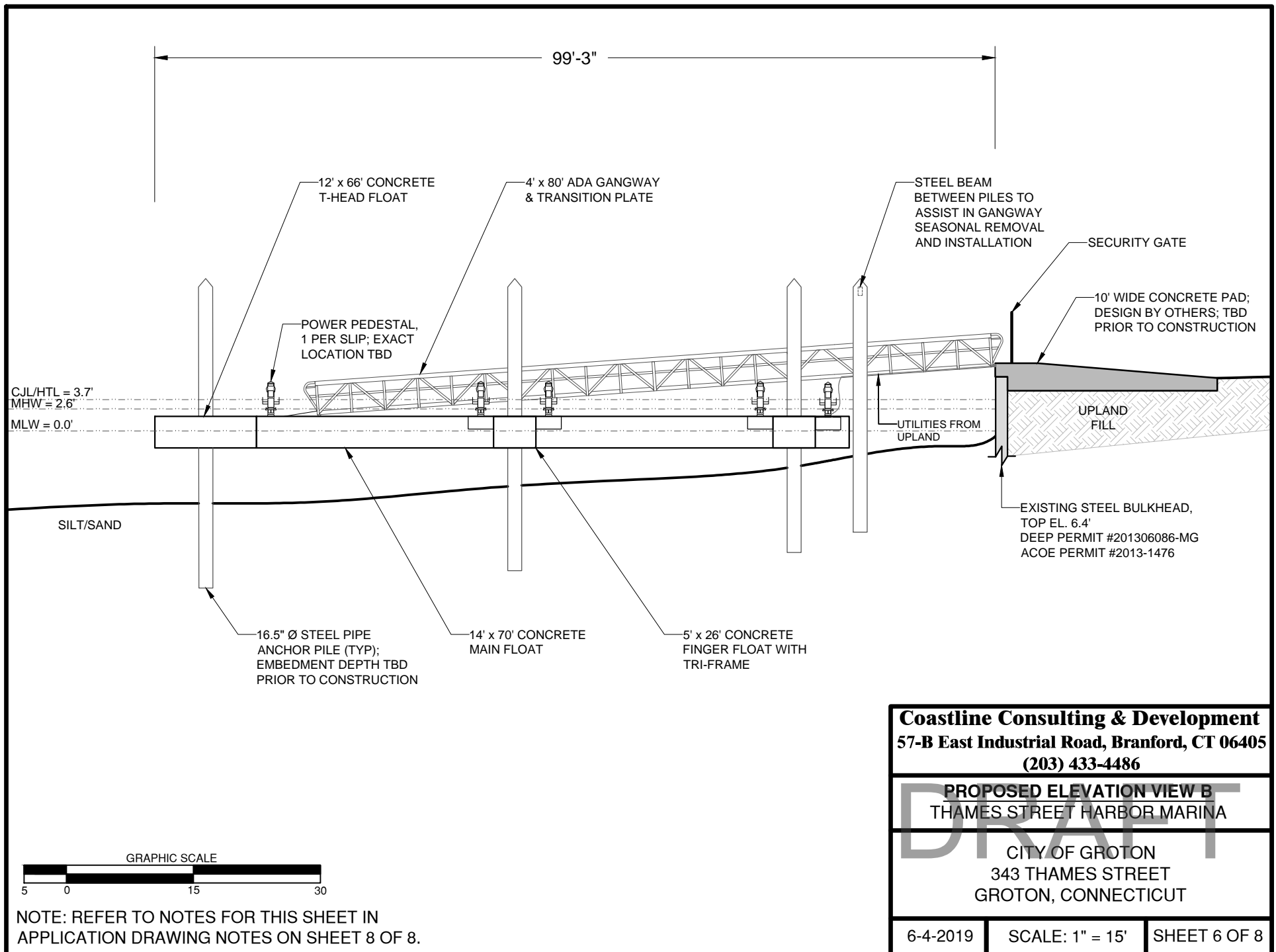
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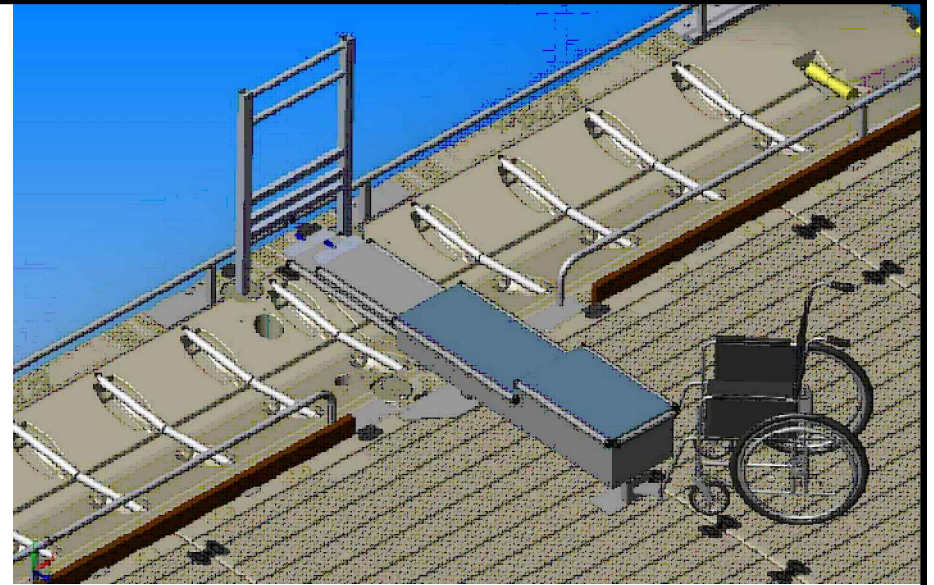
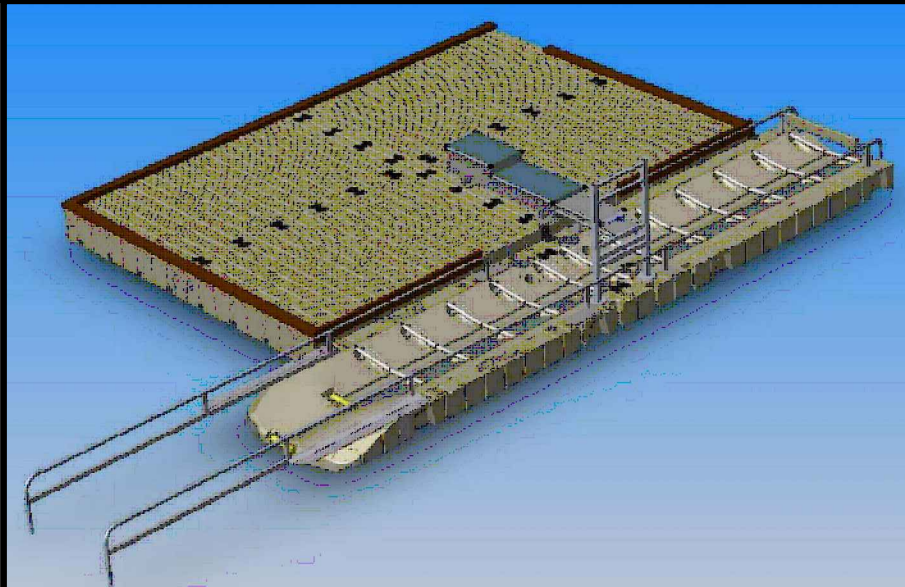
SCALE: 1" = 40'

SHEET 3 OF 8









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NOTE: REFER TO NOTES FOR THIS SHEET IN
APPLICATION DRAWING NOTES ON SHEET 8 OF 8.

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(203) 433-4486

PROPOSED VIEW C
THAMES STREET HARBOR MARINA

CITY OF GROTON
343 THAMES STREET
GROTON, CONNECTICUT

6-4-2019

SCALE: N.T.S.

SHEET 7 OF 8

APPLICATION DRAWING NOTES

SHEET 1 OF 8 SITE LOCATION MAP

1. MAP TAKEN FROM TOPO, INC., 7.5 MINUTE USGS TOPOGRAPHIC MAPS OF THE NEW LONDON, CONNECTICUT, QUADRANGLE, 1960 (PHOTO INSPECTED 1976, PHOTO REVISED 1984).

SHEET 2 OF 8 ASSESSOR'S MAP

1. THE CONDITIONS ARE APPROXIMATE AND ARE BASED UPON GROTON, CT GIS MAPPING FOUND ON GROTON, CT ASSESSOR'S OFFICE WEBSITE.

SHEET 3 OF 8 EXISTING CONDITIONS PLAN

1. THIS DRAWING WAS PREPARED FROM RECORDED RESEARCH, OTHER MAPS, FIELD OBSERVATIONS, AND OTHER SOURCES.
2. REFERENCE IS MADE TO THE FOLLOWING MAP:
 - A. "TOPOGRAPHIC SURVEY AND HYDROGRAPHIC SURVEY, CITY OF GROTON, 343 & 353 THAMES STREET, GROTON, CONNECTICUT", DATED DECEMBER 20, 2018, SCALE 1" = 20', AND CERTIFIED BY JAMES NAGLE, L.S.
3. BENCHMARK, TIDE LINES AND ELEVATIONS ARE IN FEET, FIELD-LOCATED, AND ARE REFERENCED TO THE MEAN LOW WATER TIDAL DATUM. A CONVERSION FACTOR OF +1.7' WAS USED TO CONVERT THE DATA FROM NAVD88 TO MLW DATUM. THE CJL (COASTAL JURISDICTION LINE) ELEVATION OF 3.7' MLW DATUM IS THE VALUE FOR GROTON, CT AS ESTABLISHED BY THE CONNECTICUT DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION.
4. THIS DRAWING IS FOR PLANNING AND PERMITTING PURPOSES ONLY AND IS NOT INTENDED FOR BID DOCUMENTS, STRUCTURAL DESIGN, OR CONSTRUCTION. NOT ALL IMPROVEMENTS AND FEATURES HAVE BEEN DEPICTED. ANY PROPERTY LINES ARE DEPICTED GRAPHICALLY ONLY, AND DO NOT REPRESENT ANY PROPERTY/BOUNDARY OPINION. NOT ALL IMPROVEMENTS AND FEATURES HAVE BEEN DEPICTED.
5. SITE MAY BE SUBJECT TO AND/OR TOGETHER WITH CERTAIN LITTORAL, RIPARIAN, OR OTHER RIGHTS AS PER THE RECORD MAY APPEAR
6. ANY UNDERGROUND AND/OR UNDERWATER UTILITY, STRUCTURE, AND FACILITY LOCATIONS DEPICTED AND/OR NOTED HEREON MAY HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM PAROLE TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE LOCATIONS OF WHICH ARE UNKNOWN TO COASTLINE CONSULTING & DEVELOPMENT, LLC. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION. CALL BEFORE YOU DIG: 1-800-922-4455.

SHEETS 4 - 8 OF 8

PROPOSED CONDITIONS, EXISTING ELEVATION VIEW A, PROPOSED ELEVATION VIEW B, & PROPOSED VIEW C

1. THESE DRAWINGS WERE PREPARED FROM RECORDED RESEARCH, OTHER MAPS, AND AN APPLICATION DRAWING NOTED HEREON. NOT ALL IMPROVEMENTS AND FEATURES HAVE BEEN DEPICTED.
2. SOUNDINGS AND UPLAND ELEVATIONS ARE IN FEET AND REFERENCED TO THE MEAN LOW WATER TIDAL DATUM.
3. THESE DRAWINGS ARE FOR PLANNING AND PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR BID DOCUMENTS, STRUCTURAL DESIGN, OR CONSTRUCTION.

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APPLICATION DRAWING NOTES
THAMES STREET HARBOR MARINA

CITY OF GROTON
343 THAMES STREET
GROTON, CONNECTICUT

6-4-2019

FILE NO.:
18-079

SHEET 8 OF 8

Appendix D

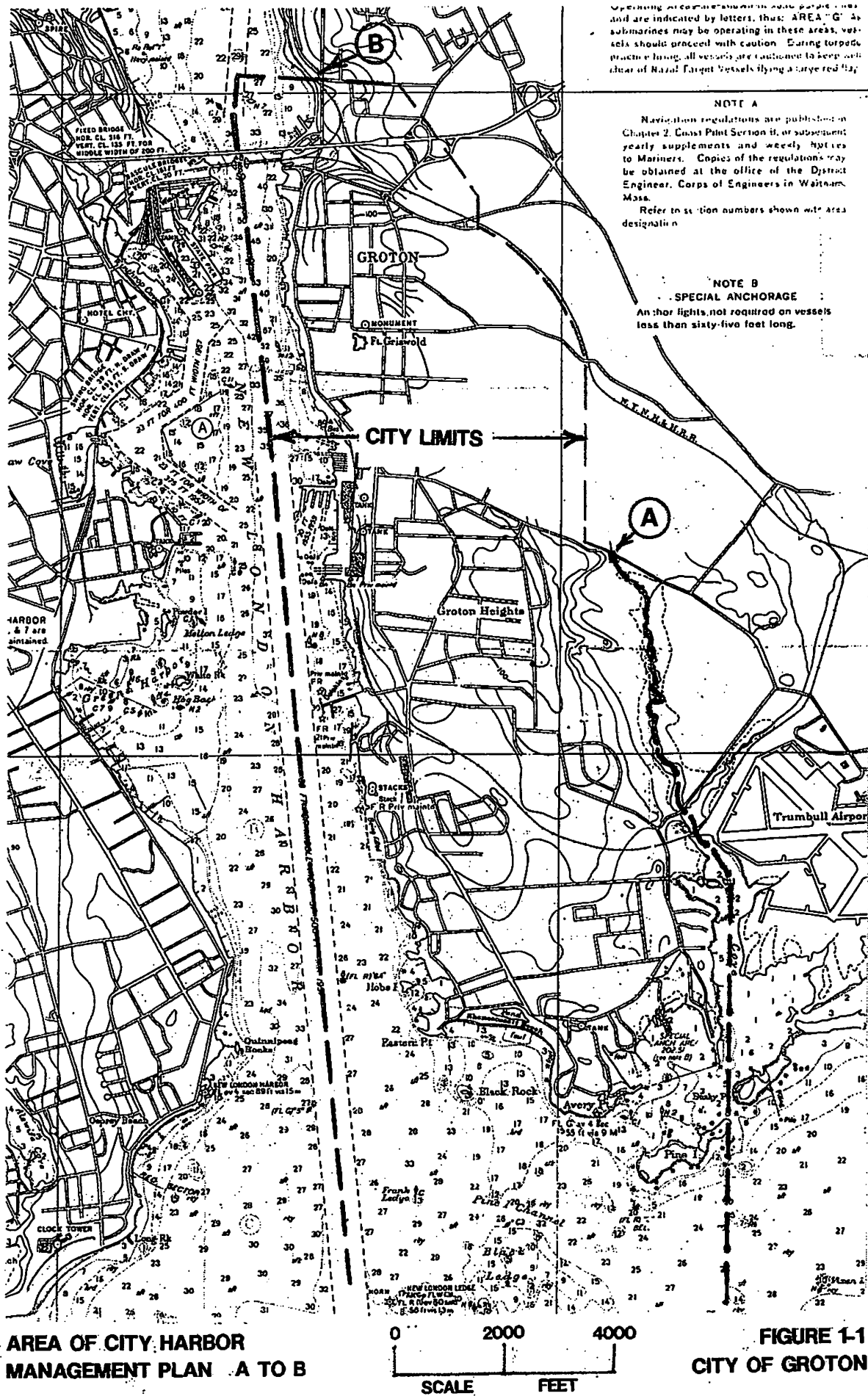
**CITY OF GROTON
HARBOR MANAGEMENT PLAN**

DECEMBER 2006

The City of Groton Harbor Management Commission

With Assistance From The

Southeastern Connecticut Regional Planning Agency



From US C&GS 359

CITY OF GROTON HARBOR MANAGEMENT PLAN

TABLE OF CONTENT

	<u>PAGE</u>
1. INTRODUCTION.....	1
2. PHYSICAL CONDITIONS AND WATERFRONT SETTING.....	2
2.1 General Description and Land Use	2
2.2 Channels.....	3
2.3 Anchorages.....	4
2.4 Mooring Areas for Small Craft	6
2.5 Marinas and Boat Slips	7
2.6A Fish and Bivalve Resources	9
2.6B Commercial and Recreational Fish and Shell Fisheries.....	10
2.7 Conservation, Natural Resources and Coastal Resources.....	10
2.8 Areas Subject to High Velocity Waters	11
2.9 Areas Subject to Flooding and Erosion.....	11
2.10 Commercial and Industrial Water Dependent Uses	12
2.11 Water Quality.....	12
2.12 Recreational Uses.....	15
2.13 Water Dependent Educational Uses.....	16
2.14 Public Access.....	17
3. ISSUES, PROBLEMS AND OPPORTUNITIES.....	27
3.1 General.....	27
3.2 Area A: Groton Bank	27
3.3 Area B: Industrial Area	28
3.4 Area C: Eastern Point.....	30
3.5 Area D: Pine Island Bay.....	30
3.6 Area E: Baker Cove.....	31
3.7 Area F: Birch Plain Creek.....	32
4. GOALS, OBJECTIVES AND POLICIES	33
4.1 General Goals	33
4.2 Area A: Groton Bank.....	33
4.3 Area B: Industrial Area.....	34
4.4 Area C: Eastern Point.....	35
4.5 Area D: Pine Island Bay.....	36
4.6 Area E: Baker Cove.....	37
4.7 Area F: Birch Plain Creek	38
5. WATER USE PLAN.....	39

TABLE OF CONTENTS, Continued

6. HARBOR MANAGEMENT IMPLEMENTATION & REGULATIONS.....	48
6-1 General Provisions	48
6-1.2 Applicability.....	48
6-1.3 Authorities.....	48
6-1.4 Violations.....	48
6-1.5 Water Use Plan	48
6-1.6 Harbor Management Fund	48
6-1.7 Amendment Procedure.....	48
6-2. Fees	49
6-3. HARBOR REGULATIONS	49
6-3.1 Wake Regulations	49
6-3.2 Speed Regulations.....	49
6-3.3 Waterskiing Regulations	50
6-3.4 Motor Regulations	50
6-3.5 Noise Abatement.....	50
6-3.6 Discharge of Refuse	50
6-3.7 Marine Sanitation Devices.....	50
6-3.8 Mooring Allocation/Assignment	50
6-4. TRANSIENT BOATS.....	54
6-4.1 Transient Moorings.....	54
6-5. DEFINITIONS	54
APPENDIX A: PERMIT AND REGULATORY AUTHORITIES	A-1
A-1 General	A-1
A-2 Local Regulatory Agencies	A-1
A-3 State and Federal Regulatory Agencies	A-3
Federal and State Agencies' Addresses	A-11
APPENDIX B: CITY COUNCIL RESOLUTION OF OCTOBER 1, 1984.....	B-1
APPENDIX C: CITY OF GROTON HARBOR MANAGEMENT ORDINANCE	C -1
APPENDIX D: PLACEMENT OF FIXED AND FLOATING STRUCTURES.....	D-1

TABLE OF CONTENTS, Continued

LIST OF FIGURES

Figure	
1-1	Bathymetry and Topography.....iv
2-1	Geographic Areas18
2-2	Sketch A.....19
2-3	Sketch B.....20
2-4	Sketch C.....21
2-5	Sketch D.....22
2-6	Sketch E.....23
2-7	Sketch F.....24
2-8	Publicly-Owned Public Access Points.....25
2-9	Municipal Coastal Program.....26

TABLE OF CONTENTS, Continued

5-1	Water Use Plan, Map A, Groton Bank.....40
5-2	Water Use Plan, Map B, Industrial Area.....41
5-3	Water Use Plan, Map C, Eastern Point.....42
5-4	Water Use Plan, Map D, Pine Island Bay.....43
5-5	Water Use Plan, Map E, Baker Cove.....44
5-6	Water Use Plan, Map F, Birch Plain Creek.....45
5-7	Mooring Grid.....46
5-8	Mooring Coordinates.....47

1. INTRODUCTION

This Plan has been developed by the City of Groton Harbor Management Commission in accordance with Section 22a-113m of the Connecticut General Statutes. Its purpose is to provide guidance for the management and use of the waters and waterfront of the City for recreational, commercial, industrial and other activities.

This document is divided into two basic parts: First, the Plan itself, Chapters 1 - 5, which provides the background and rationale for the second part, Chapter 6, which implements the Plan and establishes regulations. It is proposed that the Plan be adopted by ordinance by the City Council once the plan has been approved by the Connecticut Department of Environmental Protection and Department of Transportation, as required by statute.

This Plan has been drafted in accordance with a resolution adopted by the City Council of the City of Groton on October 1, 1984. That resolution changed the name of the existing Waterfront Commission to the Harbor Management Commission, and designated that commission to assume all the duties and powers enumerated in the State of Connecticut Harbor Management Act. The resolution has been included as Appendix B to this document.

The resolution also defined the area of jurisdiction of the Commission. This area follows the shoreline from the easterly city boundary at Poquonnock Road; thence southerly along Birch Plain Creek and Baker Cove; thence westerly along Fishers Island Sound; thence northerly along the Thames River; thence easterly to the shore of the Thames River. These two points are marked as points A and B on the map of the City of Groton, Figure 1-1.

One of the key objectives of harbor management planning is to accurately and concisely describe existing problems and identify probable future conflicts relating to the administration and management of municipal waters. Problems specific to both the administration and the physical management of small craft harbors should be considered in light of the needs specific to the recreational boater as well as the commercial waterman. This analysis requires attention to engineering, land use management, water resource management and regulatory control.

Control and regulation within municipal waters are typically shared between federal, state and local government; each level of government with its own predetermined objectives. Because these levels of government are dissimilar, their respective management objectives will often be divergent. This in turn creates uncertainty regarding authority and responsibility over the management of municipal navigable waters. In addition, federal, state and local governments routinely find themselves facing complex decisions with limited information to assist them in these site-specific decisions.

Traditional comprehensive land use planning fails to adequately consider the administrative changes required for the implementation of land use plans beyond the shoreline. And yet the land use controls, adopted through the comprehensive plan process, are that which will allow or disallow urban waterfront activities with little regard for their impact on water surface availability, local maritime industries or the carrying capacity of the local, natural shoreline habitats.

It is the objective of harbor management planning to evaluate the effect of existing, often uncoordinated, regulatory programs (municipal, state and federal government) in light of the unique constraints existing in the specific waterfront, to evaluate potential problems, and to identify local maritime goals and objectives, and then create an integrated management framework designed to accomplish the stated goals and objectives through coordination between local, state and federal government activities.

A Harbor Management Plan is not intended to replace the municipal comprehensive plan. Instead, this plan is intended to offer the necessary guidance for inclusion of the navigable waterways within the existing land use/resource management plans and programs. It is also the objective of this plan to give sufficient guidance in order to allow a greater degree of coordination between the various regulatory agencies active in waterfront areas.

2. Physical Conditions and Waterfront Setting

2.1 General Description and Land Use

The waterfront of the City of Groton is varied both in physical setting and in man-made development. From its northernmost point, it stretches along the east side of the estuary of the Thames River for a distance of about 3.6 miles to Avery Point at the estuary's mouth. This stretch of shorefront is divided roughly in thirds. The northern third (see Sketch A on page 15) is the Thames Street or Groton Bank area. This is the oldest section of the City and contains a good assortment of historically and architecturally interesting buildings as well as several marinas, docks for fishing and charter boats and other water-dependent uses. The winds across the Thames River are predominantly west or southwest and produce rough seas. The water is very deep close to the shore. The main river channel is very close to the shore at this point, and is utilized by large ships and submarines. Given the requirement of commercial and government vessel traffic, the main navigable channel has been and will continue to be maintenance dredged. The Commission will work closely with various agencies and the Harbor Master to ensure that dredging procedures and the resultant spoils comply with approved procedures. The land between Thames Street and the River is narrow and steep.

The second third of the City's Thames River waterfront (Sketch B on page 16) is a highly intensive industrial area containing the facilities of three firms. From north to south, these are the Electric Boat Corporation, which builds nuclear-powered submarines for the U.S. Navy, the Amerada Hess Corporation, which operates a large oil terminal where seagoing tankers are off-loaded, and Pfizer, Inc., a pharmaceutical firm, where tank barges are off-loaded. This stretch of riverfront constitutes the industrial heart of Southeastern Connecticut. This area contains a concentrated economic base of manufacturing employment in southeastern Connecticut. The Electric Boat Corporation uses its waterfront for shipbuilding and ship support. At the Amerada Hess Corporation seagoing tankers are off-loaded, and Pfizer, Inc. Here, also, the land is narrow and steeply sloping, and the main ship channel is close to shore. The water between the channel and the shoreline, while too deep and exposed for easy marina development, is too shallow in many locations for large ships.

The final third of the City's Thames Estuary shorefront (see Sketch C on page 17) from Circle Avenue to Avery Point contains a residential area. This neighborhood also contains a portion of the Shennecossett Golf Course and a waterfront park owned by the City, which is used by the neighboring residents. This parcel contains two masonry piers and can be used for fishing and sightseeing. In addition, this portion of the shorefront contains two recreational facilities, the City-owned Eastern Point Beach, and the Shennecossett Beach Club, a private organization. In the residential area, the shore is rocky. There are a few moorings here for boats, which belong to the property owners. The shoreline is exposed to winds and waves from the southwest. Pfizer, Inc. has recently conveyed a parcel of waterfront land extending from Shore Avenue to the Thames

River and provides approximately 1000 feet of shorefront access. Eastern Point Beach is used principally for swimming but also for fishing and scuba diving during the seasons when the swimming areas are closed. There are no public boat launching facilities in this area. Shennecossett Beach Club is a private club, the principal function of which is water-related sports, principally swimming, but there also is dinghy and board boat sailing off the beach. The rocky shore in this area lends itself to lobstering. There are lobster pots here. Scuba divers also take lobsters. There is also some water skiing and personal watercraft activity. There are two ponds or conservation areas along Shennecossett Road, one on the Beach Club property and one on property belonging to the University of Connecticut. These areas perform important drainage functions, as well as provide habitat for wildlife, notably shore birds. At the very southern end of the Thames Estuary is the Avery Point Branch of the University of Connecticut. At the University of Connecticut, the shoreline included in the map entitled Eastern Point Area is all open to the public. Much use is made of it by local residents for walking, jogging, and simply looking at the view.

Sketch D on page 18 illustrates Pine Island Bay to the east of Avery Point. Besides the waterfront and pier of the University of Connecticut, the shoreline here contains major boating facilities: the Shennecossett Yacht Club, Pine Island Marina, and the state-owned Bayberry Lane boat launch area. Pine Island Bay contains the most important mooring area in the City, which will be described in more detail in later sections of this Plan. This area is the most active in the City with respect to recreational boating, and also supports the waterfront facilities of the University of Connecticut. At the university property are docked boats of Project Oceanology which are used for educational purposes by the school systems of the surrounding towns. The University of Connecticut has fair and equitable access to the waterfront and has facilities sufficient to their needs. Also kept there are the smaller state research boats and the boats of the Coast Guard Research and Development Center. Pine Island Bay is subject to wave action from the south and southwest.

Sketch E on page 19 shows the Baker Cove area. The Cove forms the eastern boundary of the City. On its east bank is the state-owned Groton-New London Airport. The Cove's western boundary is primarily residential in nature with a sprinkling of small water-related commercial activities. At the Cove's northern end is located the property of the Groton Elks Club, which contains a marina for small boats. The boats must be small because of the shallowness which extends to the Thomas Road Bridge. The Cove is very shallow and is thus only navigable by small boats. However, the low marshy shores have much natural beauty and constitute an important natural resource area. There is a Public Access area in the subdivision on Jupiter Point Road. To the north of the railroad bridge and the Thomas Road Bridge, the Cove narrows to become Birch Plain Creek. The Creek borders a very important City-owned conservation area of salt marshes. This is a fragile and important environmental area. Access by land is available on four properties: The City owned Birch Plain Creek Conservation Area, the City-owned open space area at the end of Paul Revere Road and Nathan Hale Road, West Side Junior High School, and the Town-owned open space north of West Side Junior High School. All of these properties are utilized as passive open space areas and for teaching. The private properties along the creek all contain salt marsh areas. These salt marshes continue all the way to Poquonnock Road as shown on Sketch F on page 20. Sketch F also shows the multi-family housing areas which border the Cove, and the property of the West Side Middle School. The salt marshes on this property constitute an important teaching resource.

2.2 Channels

The main New London Harbor runs to the west of the City's waterfront, as shown on Sketches A, B, and C. It has a project depth of forty feet as far north as the property of the Electric Boat Corporation, about two and one-half miles north of the southern extremity of the City at Avery Point. In addition, as shown on Sketch D, Pine Island Bay, there exists the passageway between

the special anchorage areas. The entrance to the bay is marked with federally maintained buoys. Sketch E shows the existing natural channel in Baker Cove.

2.3 Anchorages

Within the City's waters, there are no major anchorages as distinct from mooring areas for small boats. Nautical Chart 13213, published by the National Oceanic and Atmospheric Administration, shows three general anchorage areas to the west of the New London Harbor. That channel is located in too close proximity to the Groton shore of the Thames River to permit anchoring by large vessels adjacent to the City's waterfront. The basis for navigating and anchoring in Pine Island Bay (the cove north of Pine Island) in the City of Groton is contained in the U. S. Coast Pilot 2 (Cape Cod to Sandy Hook). For reference these regulations and piloting information are quoted herein.

Part 110 - Anchorage Regulations

- (89) **Section 110.1 General.** (a) The areas described in Subpart of this part are designated as special anchorage areas pursuant to the authority contained in an act amending laws for preventing collisions of vessels approved April 22, 1940 (54 Stat. 150); Article 11 of section 1 of the Act of June 7, 1897, as amended (30 Stat. 98; 33 U.S.C.180), Rule 9 of section 1 of the Act of February 8, 1895, as amended (28 Stat. 647; 33 U.S.C. 258), and Rule Numbered 13 of section 4233 of the Revised Statutes as amended (33 U.S.C. 322). Vessels not more than 65 feet in length, when at anchor in any special anchorage area, shall not be required to carry or exhibit the white anchor lights required by the Navigation Rules.
- (90) (b) The anchorage grounds for vessels described in Subpart of this part are established and the rules and regulations in relation thereto adopted, pursuant to the authority contained in section 7 of the Act of March 4, 1915, as amended (38 Stat. 1053; 33 U.S.C. 471).
- (91) (c) All bearings in the part are referred to true meridian.
- (92) (d) Geographic coordinates expressed in terms of latitude or longitude, or both, are not intended for plotting on maps or charts whose referenced horizontal datum is the North American Datum of 1983 (NAD 83), unless such geographic coordinates are expressly labeled NAD 83. Geographic coordinates without the NAD 83 reference may be plotted on maps or charts referenced to NAD 83 only after application of the appropriate corrections that are published on the particular map or chart being used.
- (93) **Section 110.1a Anchorages under Ports and Waterways Safety Act.** (a) The anchorages listed in this section are regulated under the Ports and Waterways Safety Act (33 U.S.C. 1221 et seq.):
- (94) (1) Section 110.155 Port of new York
- (95) (b) Any person who violates any regulation issued under the Ports and Waterways Safety Act
- (96) (1) Is liable to a civil penalty, not to exceed \$25,000 for each violation;
- (97) (2) If the violation is willful, is fined not more than \$50,000 for each violation or imprisoned for not more than five years, or both.

- (42) **Pine Island Channel**, northeastward of New London Ledge Light, between Pine Island and Black Ledge, has a rocky and very broken bottom on which the least found depth is 10 feet. It is used some by local vessels between New London Harbor and Fishers Island Sound, but should be avoided by any vessel drawing more than 10 feet.
- (43) **Anchorage**.-General and naval anchorages are in the approaches to, and in, New London Harbor. (See 110.1 and 110.147, chapter 2, for limits and regulations.) Special anchorages are in Greens Harbor and in the vicinity of the U.S. Coast Guard Academy. (See 110.1 and 110.52, chapter 2, for limits and regulations.)
- (291) The cove indenting the mainland northward of Pine Island and eastward of **Avery Point**, is entered between Avery Point and westward of Pine Island. The entrance to the cove is marked by two buoys just inside and eastward of Avery Point. Depths shoal from about 10 feet in the entrance to about 1 foot at the head of the cove. A breakwater, marked at its end by a private light, extends southeasterly from the east end of Avery Point. A yacht club, marina, and State launching ramp are in the cove. An unmarked rock awash is about 500 yards 060° from the former lighthouse tower at Avery Point. Berths, guest moorings, gasoline, electricity, water, ice, marine supplies, and a 14-ton mobile hoist are available at the marina; hull and engine repairs can be made. In July 1981, a reported depth of 5 feet could be carried to the marina.
- (292) Special purpose buoys maintained by the City of Groton show a **speed limit** of 5 m.p.h. in the area.
- (293) A **special anchorage** is in the cove. (See 110.1 and 110.51, chapter 2, for limits and regulations.)
- (182) **Section 110.51 Groton, Conn.** The waters between an un-named cove and Pine Island. (a) Beginning at a point on the shoreline of Avery Point at
- (183) 41°19'01.4"N., 72°03'42.8"W.; thence to
- (184) 41°19'02.5"N., 72°03'36.2"W.; thence to
- (185) 41°18'56.2"N., 72°03'34.2"W.; thence to
- (186) 41°19'02.5"N., 72°03'19.2"W.; and thence to Jupiter Point at
- (187) 41°19'04.4"N., 72°03'19.7"W.
- (188) (b) Beginning at a point on the shoreline of Pine Island at
- (189) 41°18'47.1"N., 72°03'36.8"W.; to
- (190) 41°18'54.1"N., 72°03'35.4"W.; to
- (191) 41°19'01.2"N., 72°03'19.3"W.; to
- (192) 41°18'54.0"N., 72°03'17.5"W.

(193) NOTE: The areas designated by (a) and (b) of this section are principally for vessels used for recreational purposes. Vessels shall be anchored so that no part of the vessel obstructs the 135 foot wide channel.* Temporary floats or buoys for marking the location of the anchor of a vessel at anchor may be used. Fixed mooring piles or stakes are prohibited.

* The actual width of the fairway varies from 137' to 112'.

These special anchorage areas are delineated on NOAA Chart No. 13212 and 13213, Approaches to New London Harbor. They were established in 1970 and revised in June 1998 and are the result of a realization of the growing problem of a great increase of boat owners who wanted to moor in the bay. In addition, the boat launching ramp, established in 1957, showed an increase in use. The property owners abutting the bay at Jupiter Point also had to be accommodated in the mooring area if they were boat owners.

In 1972 the Shennecossett Yacht Club and Pine Island Marina established a grid layout for the boats in the bay. Generally this divided the west half of the bay to Shennecossett Yacht Club members, the east central part to Pine Island Marina and the east edge of the bay to the general public and Jupiter Point homeowners. This grid, for moorings and cooperating interests implemented a more formal anchorage in the bay than had been in effect for some time.

The present system utilizes to a maximum the limited usable anchorage area of the bay. Moorings and upland support are provided to people who would not have access to the cove otherwise. The public is accommodated with their choice of a mooring through the Pine Island Marina, Shennecossett Yacht Club, or on their own with access from the boat launch. There is a good balance among the desire of individuals to have moorings through the Pine Island Marina, Shennecossett Yacht Club, or on their own. Pine Island Marina maintains its moorings and ground tackle. The Shennecossett Yacht Club provides recommended mooring and ground tackle specifications for its members on their individual moorings.

2.4 Mooring Areas for Small Craft

The most important mooring area in the City is in Pine Island Bay. There are in existence two gridded areas, one to the north of the Pine Island Bay Channel and one to the south of the fairway. Under the direction of the Harbor Master, the Shennecossett Yacht Club and Pine Island Marina have maintained the mooring grid in the western and east central parts of the bay respectively. The Shennecossett Yacht Club provides launch services and dinghy storage for its members in the bay and Pine Island Marina operates approximately 72 commercial moorings.

Table 1. NUMBER OF MOORINGS IN PINE ISLAND BAY AS OF 2005

Shennecossett Yacht Club	39	17.1%
Pine Island Marina	70	30.7%
General Public	<u>119</u>	<u>52.2%</u>
Total	228	100.0%

Data on the number of existing moorings and their location in Pine Island Bay is based on: harbor masters' information, the records of the Shennecossett Yacht Club and Pine Island Marina and by field survey by the Harbor Management Commission. Pine Island Marina maintains mooring tackle and supplies launch service, lift service, repair service, and pump out service to its

customers and the general public. Shennecossett Yacht Club provides launch service to its members and transient boaters at a nominal cost. The yacht club also provides lift service to members and sells fuel and provides pump out service to the public.

Transients can be accommodated in Pine Island Bay. Both Pine Island Marina (PIM) and the Shennecossett Yacht Club (SYC), through their respective dock masters, provide mooring facilities for transient boaters by utilizing moorings that are not occupied by the assigned vessels for short periods. This sharing of facilities with transient boaters provides a more effective use of the limited resources available in Pine Island Bay. There is no fee for transient use of Shennecossett Yacht Club moorings; however, Pine Island Marina does charge a nightly fee. The Harbormaster will not allow use of assigned General Public moorings for transients.

There are also small numbers of scattered moorings in the New London Harbor, between the channel and the shoreline. Concentrations of these are located off of Grove Avenue, north of the Route I-95 Bridge, off Thames Street, and in the southern part of the City just north of Eastern Point. Generally the moorings in areas other than Pine Island Bay are owned by individuals, many of whom are waterfront property owners, who gain access to these moorings from their own shoreline.

2.5 Marinas and Boat Slips

There are three general locations for the marinas which contain boat slips. These are the Thames Street area, Baker Cove and Pine Island Bay. The marinas along Thames Street are indicated on Sketch A, on page 15, and the numbers of slips in this area are given in Table 2 below.

TABLE 2: BOAT SLIPS IN THE THAMES STREET AREA

a. Private Boat Slips as of July 1998. For locations, see Sketch A, page 15.

<u>Symbol</u>	<u>Description</u>	<u>Location</u>	<u>Slips</u>
P1	Fixed Dock	85 Thames Street	2
P2	Fixed Dock	131 Thames Street	2
P3	Fixed Dock	137 Thames Street	1
P4	Floating Dock	189 Thames Street	0
P5	Floating Dock	221 Thames Street	0
P6	Fixed Dock	251-253 Thames Street	2
P7	Fixed Dock	265-267 Thames Street	2
P8	Floating Dock	273-279 Thames Street	1

These docks would generally accommodate two (2) boats apiece, however, the majority of them are in poor condition and they would only accommodate a total of about 6 boats.

b. Commercial Boat Slips

<u>Description</u>	<u>Location No.</u>	<u>No. of Slips</u>
Mohawk Northeast	A	5
Groton Oil Marina	C	15
Groton Marine Dock	D	22
Carolyn Green Pier	E	6
Hell-Cat Dock	G	2
On-the-Thames Boatel	H	15
Morgan and White Wharf	I	2
Ed Costa Pier	J	6
J. Garbo Seafood Operation (proposed)	K	3
TOTAL EXISTING SLIPS		<u>76</u>

TOTAL EXISTING

76

TABLE 3: BOAT SLIPS IN PINE ISLAND BAY

Avery Point	approximately 19
Shennecossett Yacht Club	192
Walsh's Marina	17
Pine Island Marina	115
Private	approximately 20
TOTAL EXISTING SLIPS	363

The shoreline in the Thames Street area is exposed to wave action when the wind is from the west or southwest. There is also some effect from wakes from vessels transiting New London Harbor and submarines moving by within close proximity to the shore. Thus, the area is less than ideal for marina use at the present time. Proposals for fixed docks or breakwaters to solve this problem have been discussed, but there are no known plans for harbor protection improvements at this time.

Past proposals for the former Peter George/Garbo Seafood Operation properties have indicated that the properties and areas encompassed indicate that as many as approximately 140 slips were feasible. The possibility exists that in the future these areas may be developed in this manner.

Pine Island Bay contains three marina-type facilities. The Shennecossett Yacht Club has recently expanded their facility and now offers approximately 192 slips for its members. The Shennecossett Yacht Club provides upland storage for approximately 70 dinghies. The Walsh Marina provides 17 slips for boats. At Pine Island Marina, there are 36 slips for boats 28 feet or larger, plus 79 more for smaller boats. Pine Island Marina provides floating storage for approximately 45 canoes, dinghies, and small craft. The partially constructed Jacobsen Marina consists of approximately 95 feet of fixed pier and 60 feet of floating dock. The present owner has no plans to operate a marina at this site. In addition, the University of Connecticut owns and operates docks which extend eastward from Avery Point into Pine Island Bay which are utilized principally by Project Oceanology's vessels, and by the Coast Guard Research and Development Center. The Avery Point site also supports two DEP enforcement boats in the summer.

These latter two institutions are described in more detail in the section of this plan on water-dependent educational uses.

TABLE 4: BOAT SLIPS IN BAKER COVE

Groton Elk's Club Marina	70 slips
Chapman's Boatyard	19 Slips 12 Pilings
G&S Fish Market	6 Slips
Private	approximately 30 Slips

Baker Cove contains two marina-type facilities and one Commercial Fishing facility. The Groton Elk's Club Marina has 70 member occupied slips which consists of small boats due to the low water depths in the channel. Chapman's Boatyard is a marina-type facility which has been historically in existence since the early 1930's with out any current permit activity. There are plans to obtain permitting to change the dock configuration in the future. G&S Fisheries is a permitted commercial fishing facility, Permit Number SD-89-126, with six slips. There are approximately thirty private docks between the above mentioned facilities.

2.6A Fish and Bivalve Resources

The area within the jurisdiction of the City of Groton Harbor Management Commission provides an excellent habitat for a wide range of shellfish. It is an important source of adult shellfish for recreational and commercial activity, as well as breeding stock for populations of hard and soft clams, oysters, and other bivalves. These important resources require careful consideration in the harbor management process. According to the City's Municipal Coastal Program, the only shellfish found in significant concentrations in the coastal waters surrounding the City of Groton is the hard-shell clam, or quahog (*Mercenaria mercenaria*). Another shellfish which may be found in smaller numbers is the eastern oyster (*Crassostrea virginica*). The hard-shell clam is a bivalve which lives close to the surface in sandy or muddy substrata, while the eastern oyster requires a hard substrate for attachment. Shellfish concentration area in Groton's coastal waters include a bed of hard-shell clams north of the Gold Star Memorial Bridge, and a bed of eastern oysters which is located primarily on the New London side of the surface in sandy or muddy substrata, while the eastern oyster requires a hard substrate for attachment. Other beds of hard-shell clams in the New London Harbor are located at the northern end of the Electric Boat property, adjacent to the area between Burgess Place and Shennecossett Road, at the southern end of the Pfizer property, and surrounding Hobs Island. All of Baker Cove north to Thomas Road supports concentrations of hard-shell clams, as does the area north of Pine Island between Avery Point and Jupiter Point. In addition to hard-shell clams, scallops exist in Baker Cove, and mussels are found at Pine Island. Blue crabs are found in Baker Cove and Birch Plain Creek. Also, the City's Municipal Coastal Program cited previously, reports that benthic organisms found in the New London Harbor during sampling by the U.S. Coast Guard Academy include the following shellfish species: quahog, surf clam, razor clam, whelk, moon snail, mud snail, oyster, hermit crab, mud crab, rock crab, and barnacles.

Other benthic organisms found in the New London Harbor include various polychaetes, gastropods, isopods, amphipods, epibenthic shrimp, decapods, and echinoderms.

The lower New London Harbor is an important spawning, nursery and adult feeding habitat for fish and also as a migratory pathway for anadromous species such as alewife, blueback herring, rainbow smelt, Atlantic salmon, and American shad. It is a feeding area for long range coastal migrants such as menhaden, bluefish, and mackerel and seasonal migrants as well. Almost every

month of the year there is significant spawning activity by one or more species known to occur here.

Many sources of fisheries information have indicated the presence of the following finfish species in the Thames, many of which are also present in other city waters: porgy, weakfish, winter flounder, summer flounder, windowpane flounder, rainbow smelt, bay anchovy, American eel, fourspine stickleback, grubby, hogchoker, Atlantic silverdaice, seaboard goby, naked goby, tomcod, mummichug, striped killifish, striped searobin, northern searobin, northern pipefish, oyster toadfish, cunner, longhorn sculpin, hake (species unknown), smelt, sand shark, skate, tautog, bluefish, alewife, blueback herring and American shad.

The New London Harbor basin is the subject of an anadromous fish restoration plan and is one of the most productive habitats for winter flounder in the entire state of Connecticut.

2.6B Commercial and Recreational Fish and Shell Fisheries

Recreational boating and fishing are an extremely popular activity in all the coastal waters of the City of Groton. Where shorefront access is available, shorebased fishermen are active. Fishermen in small boats are seen in all of the city's waters. Several fishing charter operations also exist in the City.

The New London Harbor and the area south of Shennecossett Beach, Avery Point and Pine Island Bay support both a recreational and a commercial lobster fishery. There are at least ten commercial lobster operations which set pots in the lower New London Harbor, as well as other water of the City of Groton. Numerous recreational fishers set pots and dive for lobsters as well.

Due to poor water quality, the waters of the City of Groton are either prohibited or restricted to recreational and commercial bivalve shellfishing. Some commercial clamming and oystering occurs relaying the shellfish to other waters for depuration. One exception is Baker Cove, where blue crabs are still harvested.

Sketch D on page 18 shows the two shellfish beds in Pine Island Bay. The Spicer family shellfish beds are 510 feet wide extending westerly from a line running from the southeast corner of the state boat launch property to a point on the east end of Pine Island. The William C. Spicer Oyster Beds are of an indeterminate area north of Pine Island. The vagueness of the description prevents an accurate portrayal of this bed. The beds were originally granted by the Town of Groton Oyster Commission to the Spicer family members and Clyde T. Annis. Some of these were outright grants and some were leases. The HMC will accept the grants recorded in the Groton land records at face value until a court directs otherwise. The mooring field assigned to Pine Island Marina is entirely on Spicer family shellfish beds. The owner of Pine Island Marina does not lease or possess any shellfish beds in Pine Island Bay. The mooring field assigned to the Shennecossett Yacht Club is on areas of the bay not assigned to anyone as shellfish beds with the exception of two moorings on the Spicer family shellfish beds. This has been agreed to by the owner of the shellfish beds. Most general public moorings are on areas of the bay not assigned to anyone as shellfish beds with the exception of several on the Spicer family shellfish beds.

2.7 Conservation, Natural Resources and Coastal Resources

These are shown on Map 4 in the City's Municipal Coastal Program, a copy of which is shown on page , shows the various areas and the Coastal Resources situated on them. The map shows that the Thames River shoreline is considered Developed Shorefront from the northern boundary of the City as far south as the southern end of the Pfizer industrial property. From there around to the

south and east of Jupiter Point is considered rocky shorefront and modified bluffs and escarpments with beaches and dunes at the two beaches in the city. The shoreline of Baker Cove consists of alternating Tidal wetlands and developed shore front. The shoreline of Birch Plain Creek consists of brackish wetlands. Pine Island is primarily rocky shorefront with beaches and dunes on the eastern end of the island. As mentioned above, these wetland areas are significant, not only for their innate ecological value, but as educational, recreational and esthetic resources.

Definitions are as follows:

- mE modified Bluffs and Escarpments: Bluffs and escarpments which have been temporarily stabilized by erosion control structures (revetment, bulkhead or seawall) positioned seaward of the marine cliff or escarpment.
- B Beaches and Dunes: Moderately sloping shores composed of water worked sand, gravel or cobble deposits (beach) and when present, wind deposited sands (dunes or sand flats). The beach (proper) is positioned between mean low water and coastal bluffs/escarpments or dunes or vegetation. The map designations include all areas of sandy beach fill. Dunes and sand flats positioned landward and elevated above the beach, support coastal grasslands dominated by beach grass (*Ammophila brevifolium*).
- R Rocky Shorefronts: Shorefront composed of bedrock or armored with a dense aggregate of boulder and stone. Includes rugged nearly vertical rock cliffs or gently seaward sloping rock and boundary lands.
- D Developed Shorefront: Port and harbor areas which have been highly engineered and developed resulting in the functional impairment or substantial alteration of the nature physiographic features or systems.
- T Regulated Tidal Wetlands: Official state designated and regulated tidal wetlands located within the coastal boundary. The areas depicted on this map shall in no way supersede the official state regulated tidal wetland maps at the scale of 1:2400.

2.8 Area Subject to High Velocity Waters

These are indicated on the City's Flood Insurance Rate Map, published by the Federal Emergency Management Agency. That map is not included in this Plan, but should be consulted on any specific site. To summarize, virtually the entire shore line of the City is indicated to be subject to high velocity waters. However, in the southern part of the municipality, especially in the Jupiter Point area, the land elevation is the lowest, and high velocity zones (V Zones) † cover the largest land area. Knowledge of these areas is vital to the planning of any waterfront development proposal.

† Areas of 100 year coastal flood with velocity (wave action). These are as indicated on Federal Emergency Management Agency Flood Insurance Rate Maps numbers 090126 0001 B and 090126 0002D.

2.9 Area Subject to Flooding and Erosion

Areas subject to flooding in municipalities are delineated on Flood Insurance Rate Maps (in the City, Community-Panel Numbers 090126 0001 B and 090126 0002 D) created by the Federal Emergency Management Agency (FEMA). In coastal areas such as the City,

these areas are also known as "coastal flood hazard areas" and are made up of those land areas inundated during coastal storm events or subject to erosion induced by such events. In general, these lands include all areas designated as within A-zones and V-zones by FEMA. A-zones are subject to still-water flooding during so called "100-year flood events." During these 100-year events, V-zones are subject to direct action by waves three feet or more in height. Any proposals for development in such areas should take flooding potential into consideration and be built to FEMA standards.

2.10 Commercial and Industrial Water-Dependent Uses

"Water-dependent uses" means those uses and facilities which require direct access to, or location in, marine or tidal waters and which therefore cannot be located inland, including but not limited to: Marinas, recreational and commercial fishing and boating facilities, finfish and shellfish processing plants, waterfront dock and port facilities, shipyards and boat building facilities, water-based recreational uses, navigation aides, basins and channels, industrial uses dependent upon water-borne transportation or requiring large volumes of cooling or process water which cannot reasonably be located or operated at an inland site and uses which provide general public access to marine or tidal waters.

In the Thames Street area, as shown on Sketch A, page 15, are the following important water-dependent commercial uses:

- A Whaling City Dredge and Dock Corporation a Division of Mohawk Northeast Inc.
- B Ken Streeter Boat Launch
- C Groton Oil Co. Marina
- D Groton Marine Dock
- E Carolyn Green Pier
- F Seabird Enterprises (proposed ferry landing)
- G Hell-Cat Dock
- H On-the-Thames Boatel
- I Morgan & White Wharf
- J Ed Costa Pier
- K J. Garbo Seafood Operations

Sketch B on page 16 shows the three major industrial entities of the City, which are all also water-dependent. These are, from north to south, the shipyard of the Electric Boat Corporation, the oil terminal of the Amerada Hess Corporation, where ocean-going tankers and tanker barges are off-loaded, and the chemical plant of Pfizer, Inc., which also receives large deliveries of oil and uses large amounts of water from the Thames River to cool its on site power plant. Other water-dependent commercial uses are Pine Island Marina (Sketch D on page 18), and G & S Fisheries, and other small boatyards, all shown on Sketch E on page 19.

2.11 Water Quality ***

The Thames River drains 1478 m², in Connecticut and portions of Massachusetts and Rhode Island. Parts of the Thames River are heavily commercialized and industrialized. There is significant waterborne traffic at marine terminals located as far North as Allyn Point, approximately 5 miles above the Gold Star Bridge.

Pollution impacts on water quality can be classified into point (easy to identify i.e. coming from a pipe or a distinct discharge point) and nonpoint (hard to identify and control) discharge sources.

Several of the largest single point sources of pollutants in Connecticut discharge into the New London Harbor. Point discharges in the Thames River include industrial, commercial and wastewater treatment discharges. Pfizer Pharmaceutical, Hess Oil, Electric Boat, Dow Chemical, the Naval Submarine Base, Connecticut Light and Power are among the sources of leachate and wastewater discharges. Additionally, there are four municipal and one state owned wastewater treatment facilities that discharge directly into the Thames as well as numerous wastewater treatment facilities in the upper river tributaries, including, the Norwich Wastewater Treatment facility on the Yantic River which is a major contributor of effluent.

Nonpoint discharge sources in the Thames River and other waters of the City of Groton include contaminated groundwater, fertilizer runoff, stormwater runoff, runoff from marinas, farms, construction, and paved surfaces.

Also, there are problems from such sources as parking lot drains, boating and other shorefront activities. Nonpoint source (NPS) pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources. Water washing over the land –whether from rain, car washing or the watering of crops and lawns –picks up an array of contaminants, including oil, grease and sediment from roadways, agricultural chemicals from lawns, and nutrients and toxic materials from urban and suburban areas including bacteria from livestock, pet wastes, and faulty septic systems.. This runoff deposits the pollutants into lakes, rivers, wetlands, coastal waters, and even our underground sources of drinking water. Over-fertilization of estuaries and bays can lead to massive algal blooms, the decay of which can create odors and rob the waters of life-sustaining oxygen. Sand and dirt usually ends up in stream beds, bays, or shallow coastal areas, where it can alter stream flow and decrease the availability of healthy aquatic habitat. Trash is without a doubt the simplest type of pollution to understand. It interferes with enjoyment of our water resources, and many types can be health threat to wildlife.

Stormwater Management:

Shoreline development and marina operations are two areas that can contribute to water quality problems. Shoreline development can cause stormwater, nonpoint source and point source contributions. On October 11, 2002, the CT DEP, Bureau of Water Management issued a Notice of a Public Hearing under Section 22a-430b of the Connecticut General Statutes for the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4). The City of Groton has implemented Small MS 4 Stormwater Mangement Plan to identify potential sources of discharges and eliminate or mitigate their effects. The Plan addresses the following areas:

Public participation/Involvement

Public Education and Outreach

Illicit Discharge Detection and Elimination

Pollution Prevention/Good Housekeeping

Construction Site Runoff Control

Post-Construction Runoff Control

The City of Groton has taken actions to prevent discharges into the New London Harbor and surrounding waters. Periodically, the streets are cleaned to remove debris and sand that could end up in the harbor and contribute to the contamination of the harbor.

Construction site plans are reviewed to consider potential water quality impact. Periodic site inspections are performed for enforcement of control measures. Storm drains that discharge to the harbor are labeled and sampled. Annual water testing is conducted to evaluate the measures taken for effectiveness and to determine if additional measures should be implemented.

Clean Marinas:

Certified Connecticut Clean Marinas are recognized by the DEP for their voluntary efforts to operate at standards above and beyond regulatory compliance. CT Clean Marinas have taken great strides to implement practices which minimize the pollution from mechanical activities, painting and fiberglass repair, hauling and storing boats, fueling, facility management, emergency planning and boater education. Shennecossett Yacht Club was awarded their Clean Marina certification on May 31, 2004. Pine Island Marina is currently working to become a Certified Clean Marina.

No Discharge Zones:

A No Discharge Area (NDA) designation, per Section 312 of the Clean Water Act, prohibits discharge of untreated and partially treated boat sewage from Type I and Type II Marine Sanitation Devices (MSDs) within its boundaries. Eliminating the release of sewage from boats, both treated and untreated, will result in reductions of man-made nutrient loading and exposure to bacterial pathogens in swimming areas, shellfish beds and other environmentally sensitive aquatic habitats. At present, the discharge from boats of untreated sewage is prohibited. If a No Discharge Area is established, the discharge from boats of treated as well as untreated sewage is prohibited within the designated area. Instead, boaters will be required to use pumpout facilities or pumpout boats that serve the area. The areas from the Rhode Island Border to Hoadley Point in Guilford, including the Thames River from Norwich to New London are designated as a No Discharge Area.

The following pumpout facilities are located within the jurisdiction of this Harbor Management Plan:

Pine Island Marina
Shennecossett Yacht Club

Coastal Water Classification and Use:

Virtually the entire waterfront of the City, with the exception of Baker Cove, Pine Island Bay and Eastern Point is classified as SC with a goal of SB by the Connecticut Department of Environmental Protection. Baker Cove, Pine Land Bay and Eastern Point are classified as SB with a goal of SA.

CLASS SA DESIGNATED USES

These surface waters are designated for: habitat for marine fish, other aquatic life and wildlife; shellfish harvesting for direct human consumption; recreation; industrial water supply; and navigation.

CLASS SB DESIGNATED USES

These waters are designated for: habitat for marine fish, other aquatic life and wildlife; commercial shellfish harvesting; recreation; industrial water supply; and navigation.

CLASS SC

Class SC water quality results from conditions that are usually correctable through implementation of established water quality management programs to control point and nonpoint sources. Present surface water quality conditions frequently preclude the attainment of one of more designated uses for Class SB waters or one or more Criteria for Class SB waters are not being consistently achieved. Class SC waters may be suitable for certain fish and wildlife habitat, certain recreational activities, certain aquaculture operations, industrial use and navigation.

The Harbor Management Commission very strongly supports the goals of improving water quality.

2.12 Recreational Uses

In the Thames Street area, there is informal swimming although the Commission discourages swimming on SC waters. There are picnic tables on the privately-owned abandoned abutment for the former Thames River Bridge, located just south of the railroad bridge

The southern part of the City contains the following:

- a. **Shennecossett Beach Club:** This is a private club. Activities are swimming, and also, as a secondary activity, sailing off the beach with windsurfers and board boats.
- b. **Eastern Point Beach:** This City facility is used for swimming. There is also much scuba diving activity at this beach, principally in the off-season.
- c. **UConn Avery Point Campus:** This short beach on the property of the University of Connecticut at Avery Point is adjacent to the Shennecossett Beach Club. It is used by university personnel and invitees. There are walks and places for jogging and parking on the campus of the University of Connecticut at Avery Point. The facilities at the university are available to the general public.
- d. **Baker Cove Subdivision Overlook:** The Baker Cove Subdivision Overlook includes a public path from Shennecossett Road to the waterfront at Baker Cove. The site's waterfront offers views of a tidal marsh and its wildlife across the cove and Pine Island Bay to the south. Aircraft landing and departing from nearby Groton-New London Airport can also be seen. The 2-vehicle "parking lot" is a small roadside pull-off area immediately on your left as you enter the subdivision access road. A gravel access path leads to the overlook area. It begins just beyond the parking lot and turns to grass. Follow the grassy area and keep the large white fence to your right to reach the overlook. A bench for the public is to be provided at the end of the path.
- e. **Bayberry Lane State Boat Launch:** Located between Avery Point and Jupiter Point, this site offers large and small boat launching, trailer parking and scenic views of Pine Island and

Bushy Point. Floating access pier available at this site. Public parking provided. To help you reach Bayberry Lane State Boat Launch, some routes leading to this site are posted with boat launch symbol signs.

- f. **Birch Plain Creek Park:** This salt marsh estuarine system lies along Birch Plain Creek and offers an excellent habitat for a variety of animals. A gravel parking lot is provided and there are nice walking trails along the creek
- g. **Fort Street Landing:** This parcel, located on Thames Street at the foot of Fort Street, was once used as a landing for Fort Griswold. Today it offers views of the New London Harbor and downtown New London's waterfront. There are benches and a grass area from which one can view submarines and commercial and recreational boats as they travel the Thames River. No parking provided.
- h. **Pine Island Bay and Baker Cove:** In Pine Island Bay there is swimming off of moored boats and in front of residences. At Jupiter Point, there is a small private beach used by residents for swimming. Swimming from this beach does not conflict with any other uses, although other uses may conflict with swimming in as much as they reduce water quality and pose a safety threat. Many residents also swim in front of their houses in both Pine Island Bay and Baker Cove. Bird watching is popular in these two areas as well.

Baker Cove flanks the eastern side of Jupiter Point Peninsula. It is used by different people for a number of different, but often conflicting, purposes. It is transited by boaters who dock their boats in marinas accessed from Shennecossett Road as well as boaters wishing to access Bluff Point State Park and the Poquonnock River.

2.13 Water-Dependent Educational Uses

The following are located on the campus at the Avery Point Branch of the University of Connecticut:

- a. **The Marine Sciences Institute:** This is the headquarters of the university's Department of Marine Science and Coastal Studies program.
- b. **The Master's Program in Ocean Engineering:** This program is managed by the university's Department of Marine Science.
- c. **The Sea Grant Cooperative Extension Service:** This organization is funded through both the National Oceanic and Atmospheric Administration (NOAA) of the U.S. Department of Commerce and the state.
- d. **National Undersea Research Center (NURC):** This program is funded by NOAA through the university.
- e. **Project Oceanology:** This program described above has its base here. The program operates two large and several smaller boats.
- f. **The U.S. Coast Guard Research and Development Center:** The Coast Guard R&DC provides engineering and support activities for the US Coast Guard in water operations.

In addition, the Avery Point campus contains a branch of the University of Connecticut. Enrollment is approximately 600 day students. There are also evening courses, held by the

university. The University of Connecticut has constructed a large educational building on the Avery Point campus to facilitate marine research and teaching activities.

2.14 Public Access

In the southern part of the City, as shown in Fig. 2-9 on page 22, the following facilities are shown:

- a. **City Waterfront Property and Fishing Pier:** The property contains two small stone piers, used in connection with the former hotel. These are used for fishing by the public on an informal basis. (Location 11)
- b. **The "Concrete Beach":** This consists of a concrete ramp which extends for about 100 yards along the waterfront at Shore Avenue and Central Avenue. It is City owned, and unused at the present time. It was constructed to protect Shore Avenue from storm wave impact. The ramp appears too steep for easy launching of boats from trailers but might be used for dinghy storage and launching. (Location 3)
- c. **Eastern Point Beach:** This beach is open for swimming typically from Memorial Day weekend until Labor Day Weekend with life guards on duty. but in the non-swimming times of the year, it is open to the public for walking, passive recreation, fishing, and scuba diving. There is more than a beach on this property. There are sections of rocky shoreline which are attractive for these kinds of activities. (Location 4)
- d. **University of Connecticut:** The university campus is open to the public for walking. Visitors are required to use the parking lot at the entrance. (Location 5)
- e. **Bayberry Lane Boat Launch area:** This state owned area consists of approximately 1.7 acre parcel containing a City of Groton sewer pump station. The area is partially paved and partially gravel surfaced. It provides parking space for approximately 30 car-trailer parking spaces. The permanent toilet facilities have been closed because of vandalism concerns and replaced with sporadically maintained port-a-potties. This site is the only formal public access to Pine Island Bay. The state has prepared plans for upgrading this facility and is currently revising them in response to comments received at a public hearing held recently. (Location 6)
- f. **Public Access Area at the Jupiter Point Subdivision:**

On Birch Plain Creek, the West Side Junior High School holds classes in the salt marsh area on the school property. (Location 9)

In the Thames Street area are located the following:

- a. **Ken Streeter Launch area:** This state owned area utilizes the state owned I-95 northbound highway right of way under the Thames River Bridge.
- b. The privately-owned former bridge abutment south of the railroad bridge.
- c. The state park at the end of Fort Street, a small waterfront lawn area with benches. (Location 2)
- d. In addition, where possible, the City is acquiring public access easements at appropriate waterfront sites through the Coastal Site Plan Review Process, with the objective of eventually obtaining a significant degree of public access to the waterfront.

Throughout the City public street parking allows easy access for shoreside walks and viewing. All public access sites are illustrated on Figure 2-9 on page xx.

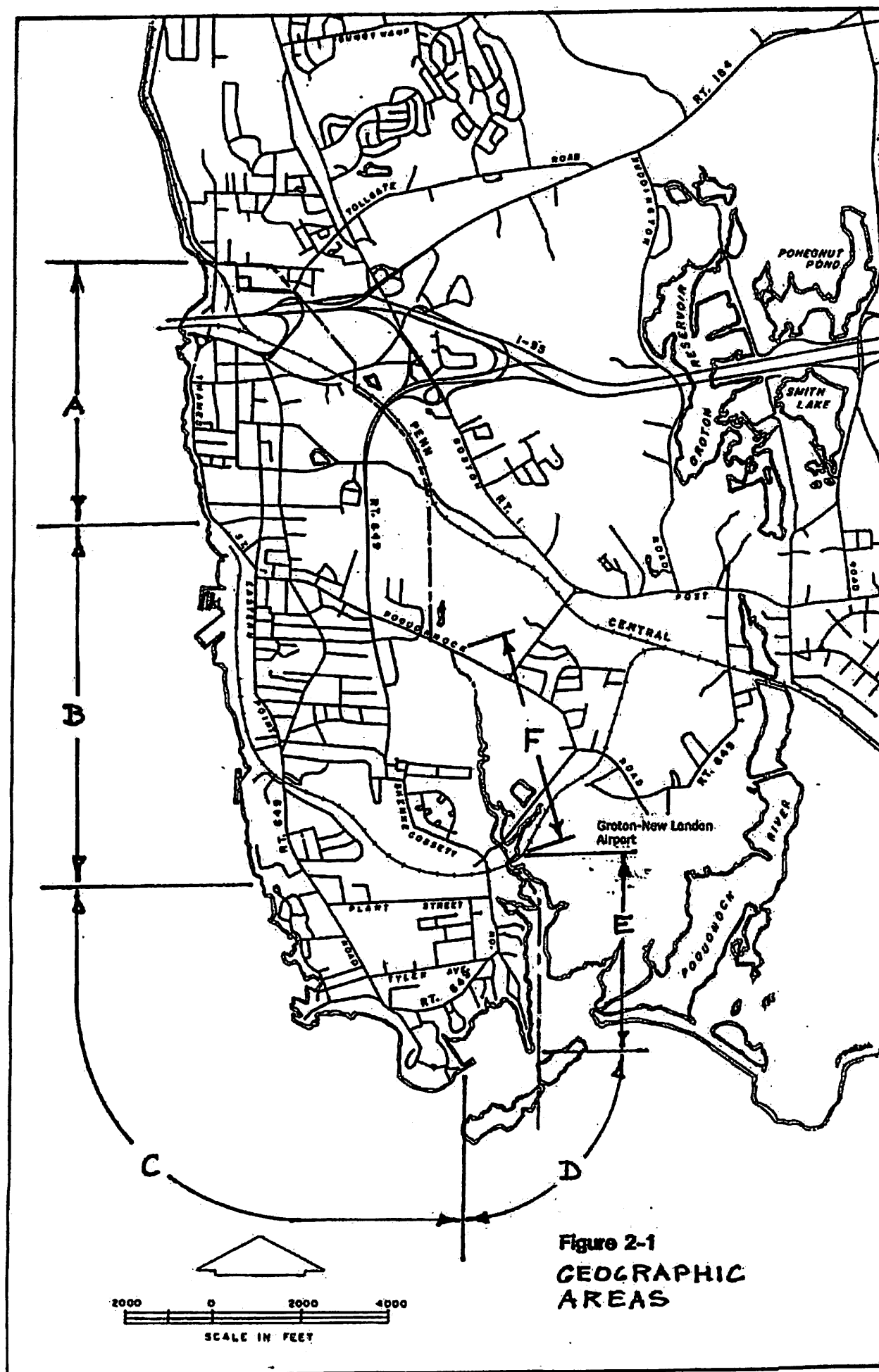
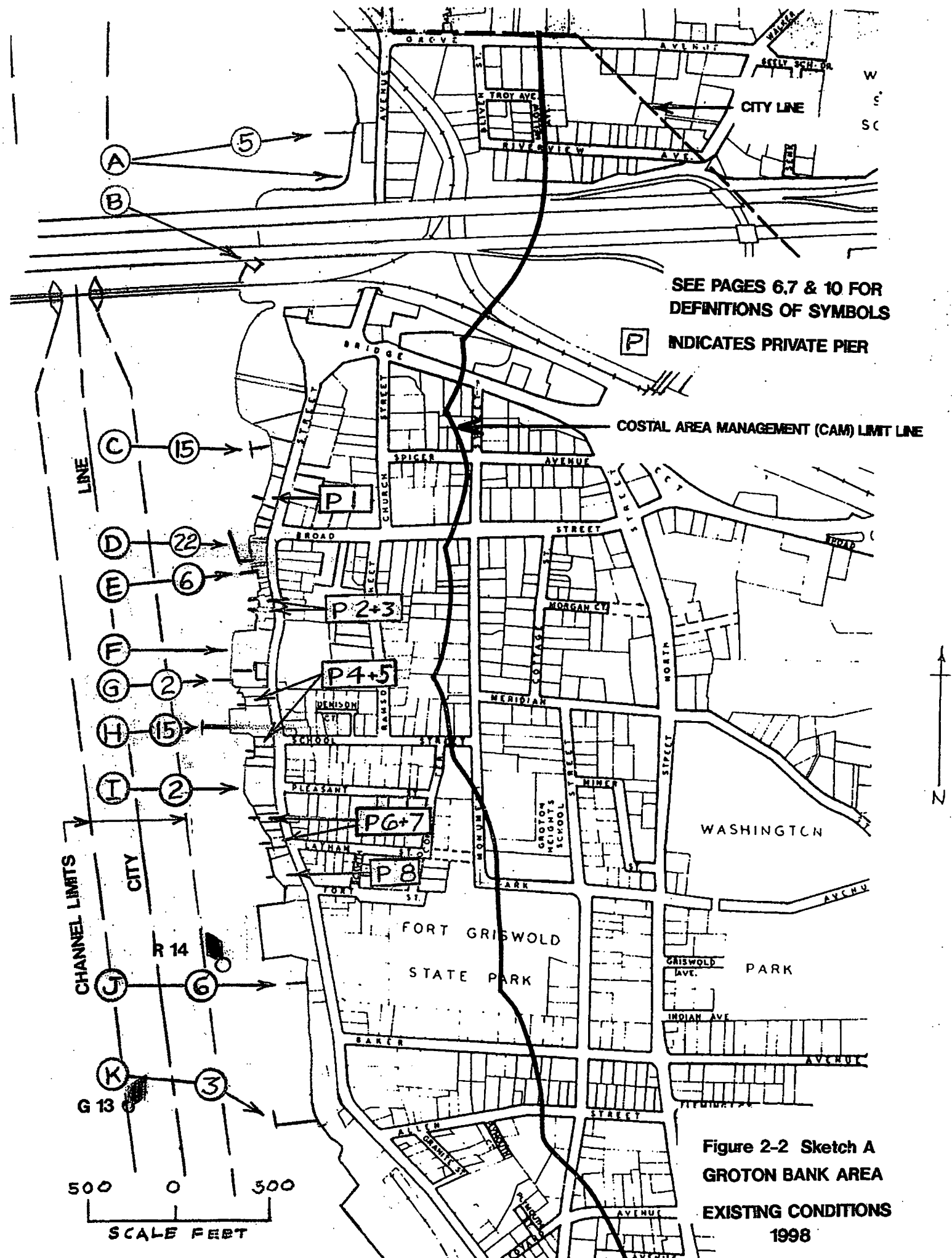


Figure 2-1
GEOGRAPHIC
AREAS



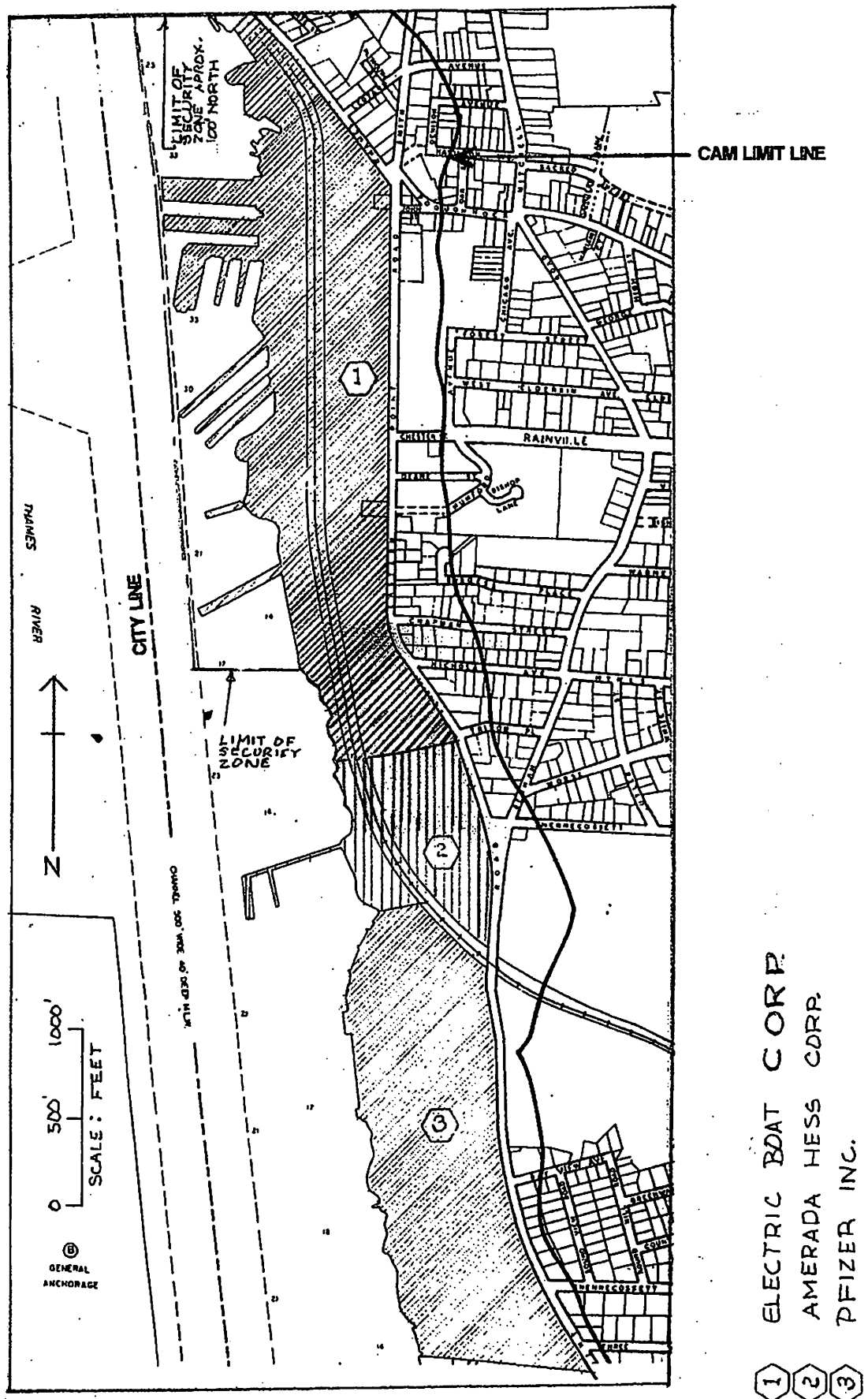


Figure 2-3 Sketch B
INDUSTRIAL AREA

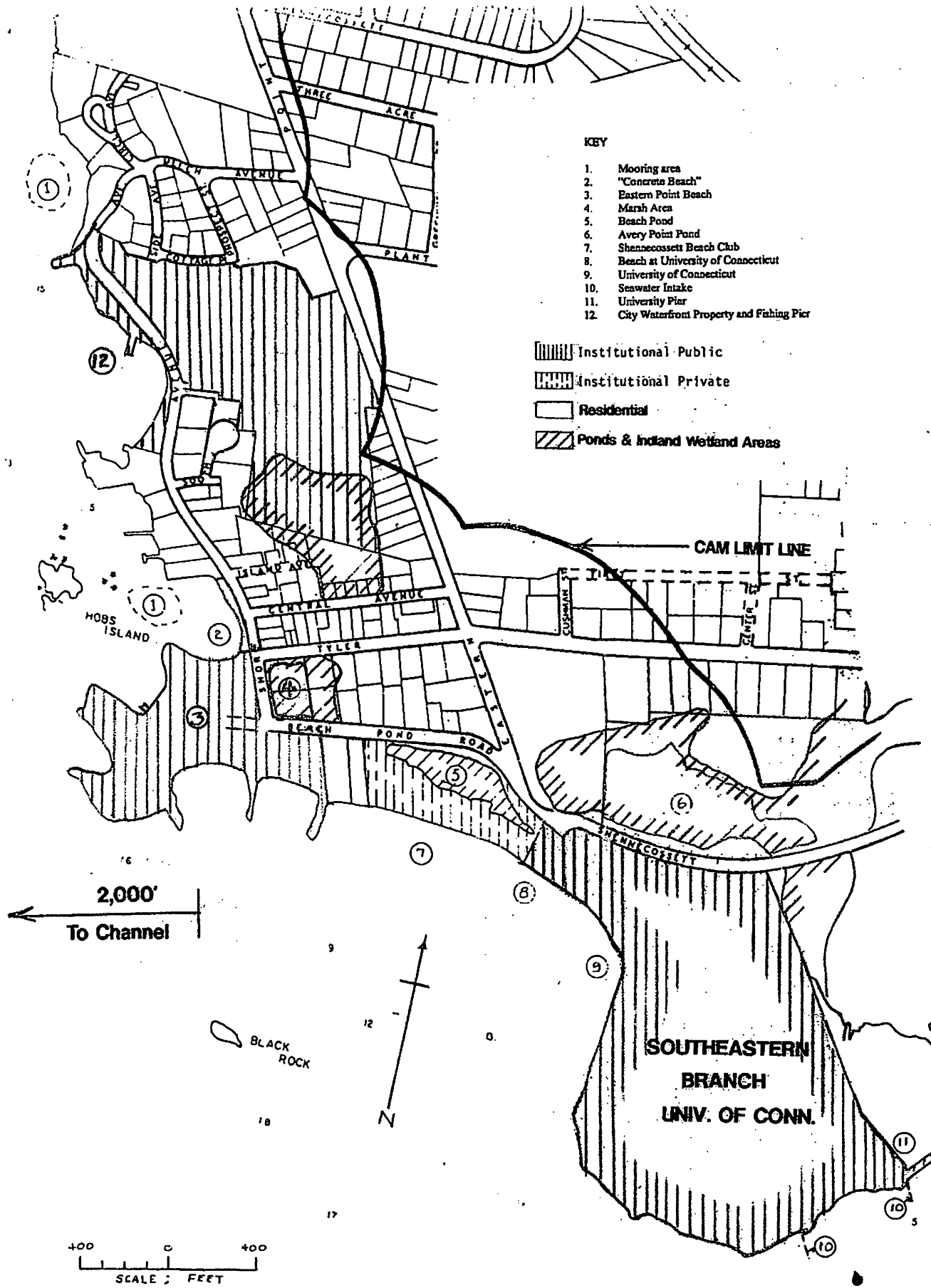
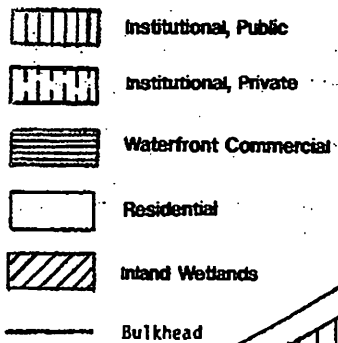


Figure 2-4 Sketch C
EASTERN POINT AREA

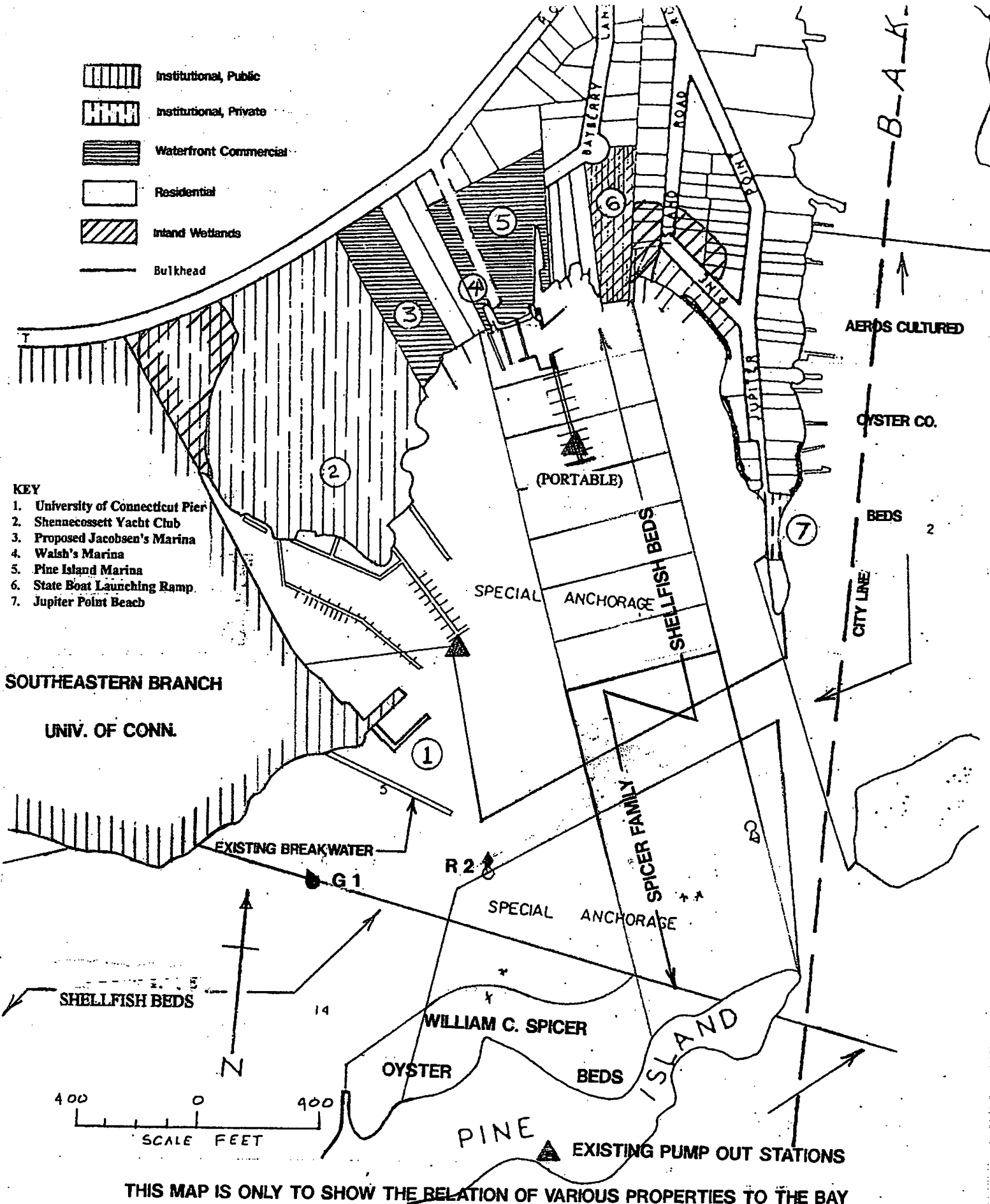


KEY

1. University of Connecticut Pier
2. Shennecossett Yacht Club
3. Proposed Jacobsen's Marina
4. Walsh's Marina
5. Pine Island Marina
6. State Boat Launching Ramp
7. Jupiter Point Beach

SOUTHEASTERN BRANCH

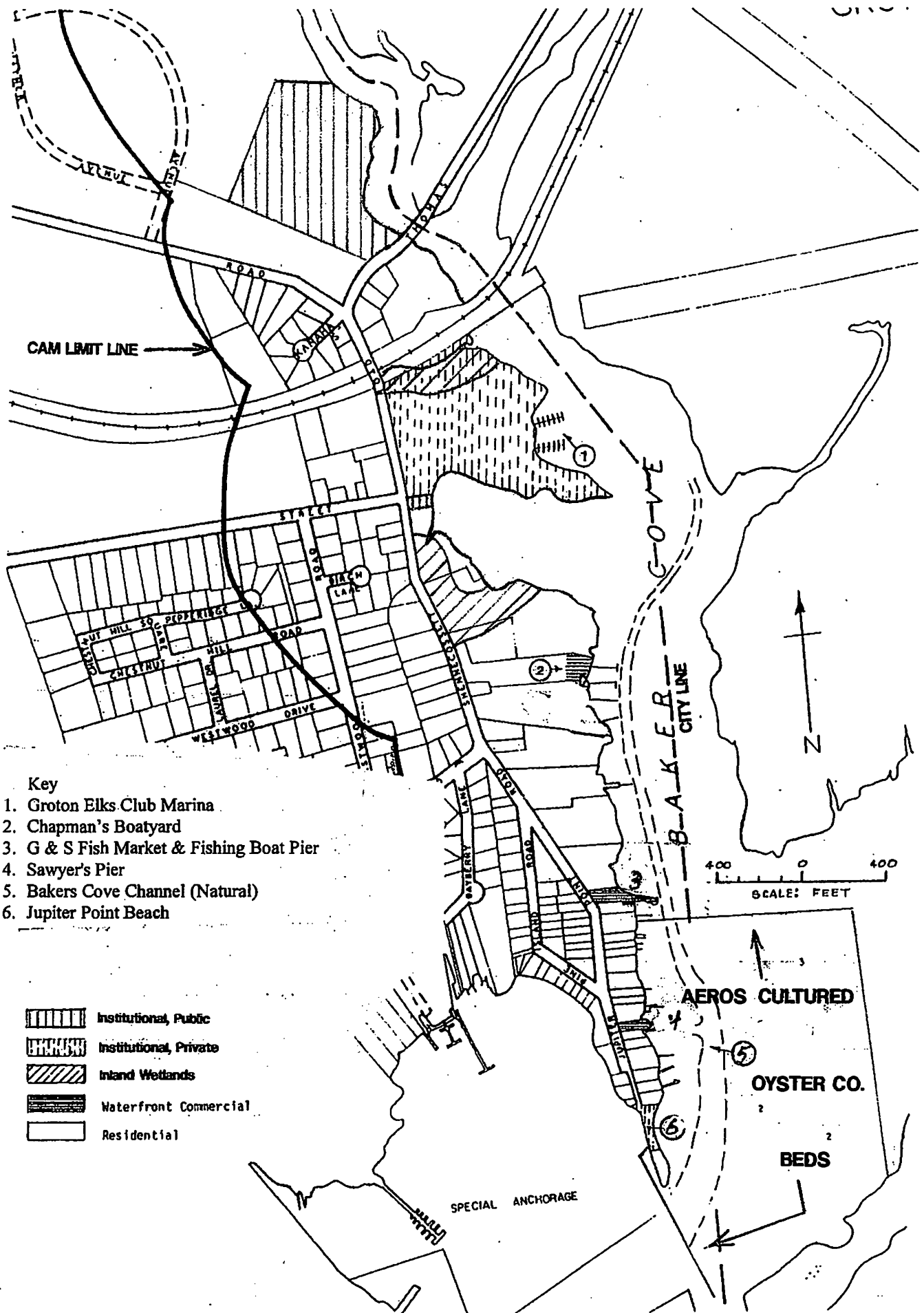
UNIV. OF CONN.



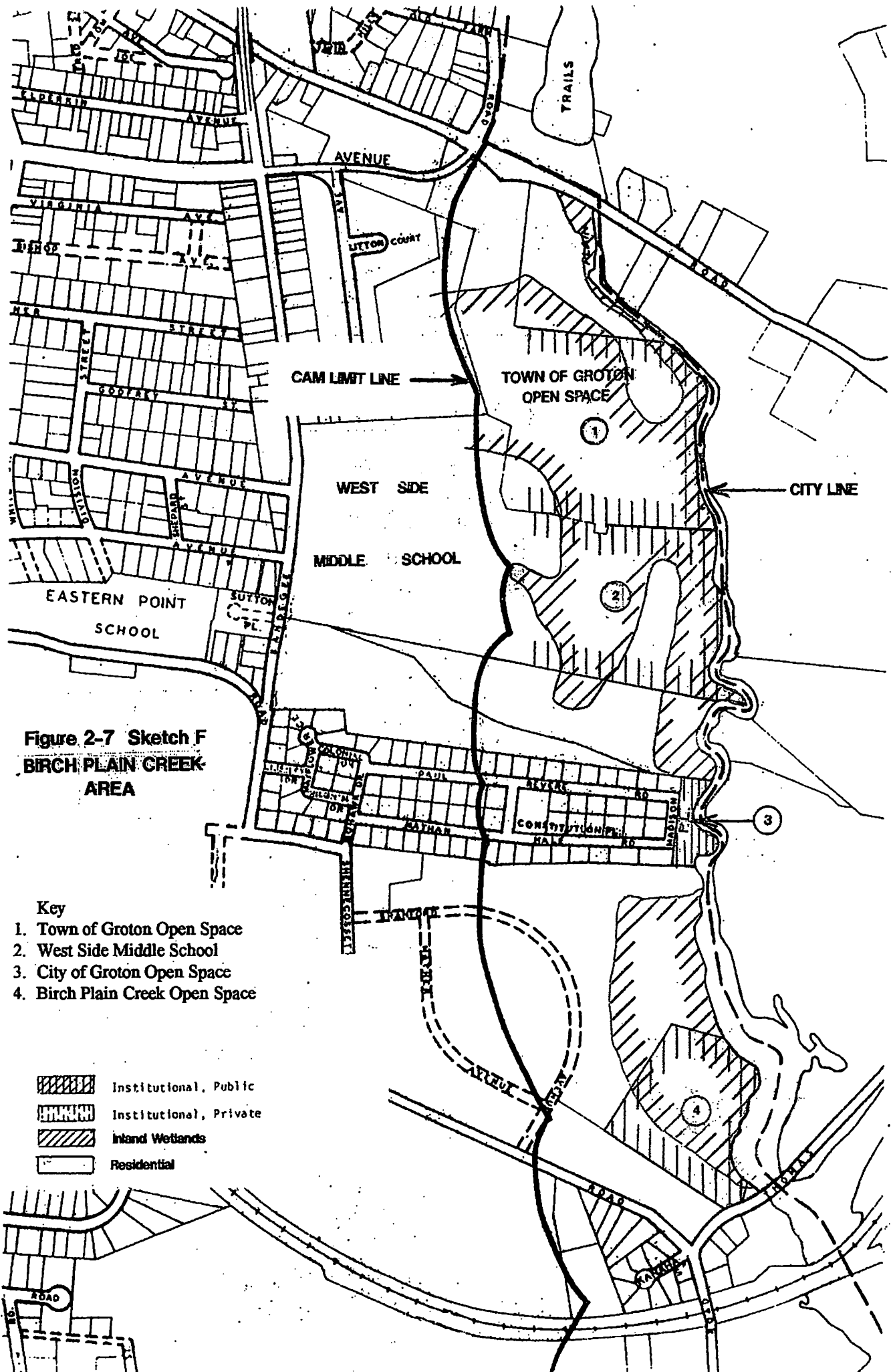
THIS MAP IS ONLY TO SHOW THE RELATION OF VARIOUS PROPERTIES TO THE BAY

Figure 2-5 Sketch D

PINE ISLAND BAY AREA



**Figure 2-6 Sketch E
BAKER COVE AREA**

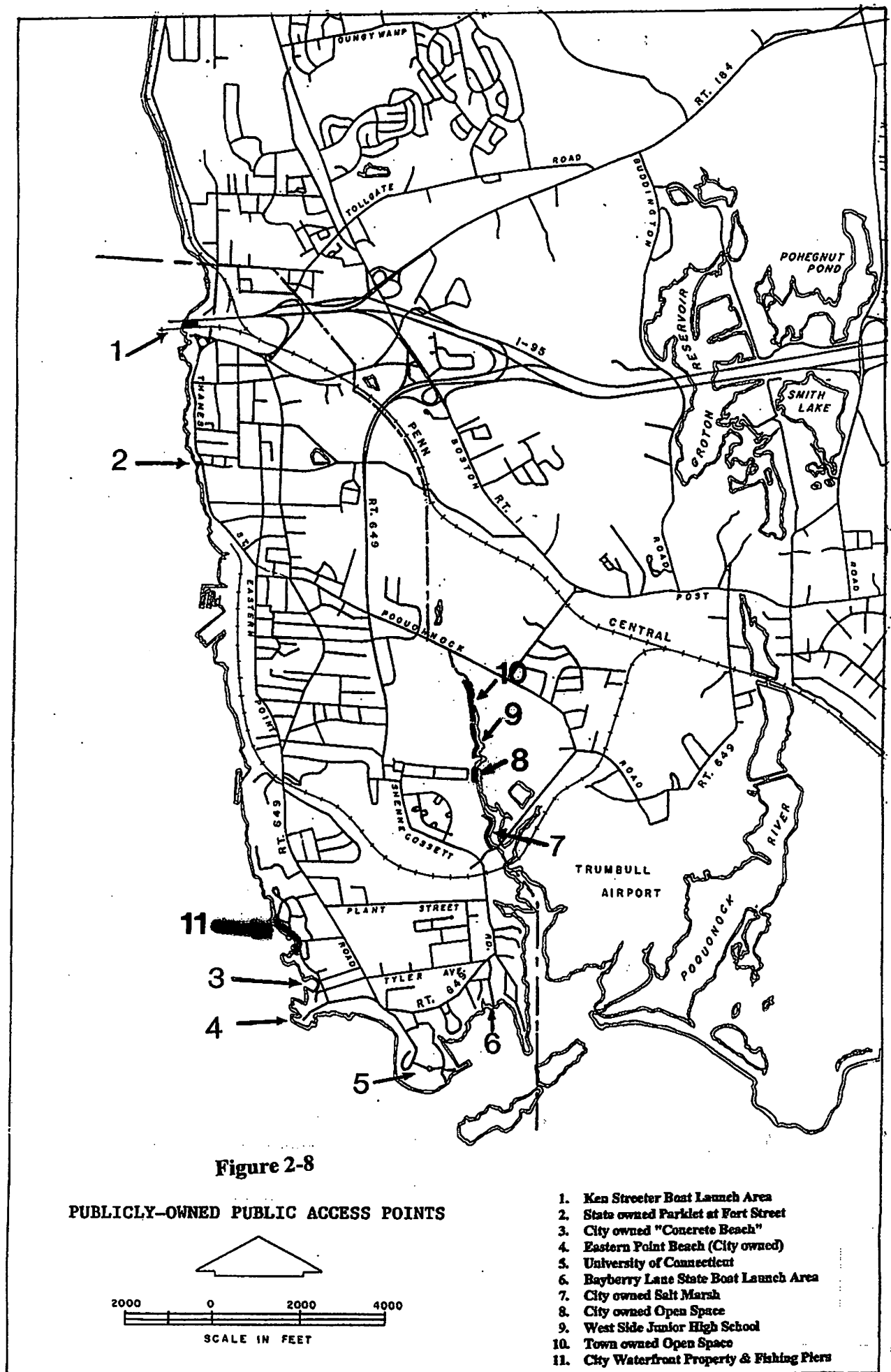


**Figure 2-7 Sketch F
BIRCH PLAIN CREEK
AREA**

Key

1. Town of Groton Open Space
2. West Side Middle School
3. City of Groton Open Space
4. Birch Plain Creek Open Space

	Institutional, Public
	Institutional, Private
	Inland Wetlands
	Residential



MAP 4

[illegible]

3. ISSUES, PROBLEMS AND OPPORTUNITIES

3.1 General

Because of the diversity of the city's waterfront, it is necessary to discuss the subject of this chapter in terms of shoreline segments. Those utilized have already been presented in the land use descriptions contained in Chapter 2, and have been illustrated in Figures 2-2 through 2-7. Their locations are shown on Figure 2-1. Each segment has its own particular topographic and land use characteristics which give rise to a specific set of issues, problems and opportunities.

However, before discussing the segments, it is necessary to mention several concerns which apply to the entire waterfront. These are:

1. The allocation of water areas outside of the federal channel to appropriate uses. Competing uses include dockage, placement and usage of moorings, fairways, and recreational uses such as swimming, waterskiing, scuba diving plus rowing, sailing, fishing and motorboating.
2. The related problems of public access to the shoreline and the accommodation of transient vessels and their crews. Aside from private facilities, there are few places where the public can launch boats or land from transient vessels, except the state-owned launching facilities.
3. The potential for the encroachment of piers and docks into channels and anchorages, and the need for coordination between adjacent property owners in the planning and construction of such facilities.
4. The problem of water pollution. This is brought about by the urban and industrial nature of the City.
5. The related problems associated with the conflicts resulting from use of the same areas for recreation and aquaculture.
6. The Commission will cooperate with state federal and local authorities regarding the security of the waterfront.

3.2 Area A: Groton Bank

The principal problem facing this area of the City is economic revitalization, of both the land uses along the river and of the waterfront itself. Several groups within the City have been formed to help solve this problem. The City administration has taken steps to help, notably by commissioning the Thames Street Study, a planning study of the area funded by the Coastal Area Management section of the Connecticut Department of Environmental Protection. The City has also created the Thames Street Revitalization Advisory Committee and is acting on the Committee's recommendations. In 1990 the City completed the Thames Street Beautification Program Report and has completed streetscape improvements to the Thames Street/School Street intersection, as well as the Thames Street/Latham Street intersection and the Thames Street/Fort Street intersection.

From the point of view of the Harbor Management Commission, economic revitalization in this area means encouragement of water-dependent businesses, such as tour boats and charter fishing boats, encouragement of provisions for transient vessels, and water-dependent businesses generally.

One of the recommendations of the above study was a public walkway along parts of the waterfront, to attract pedestrians and bring people into the area. However, generally the City's voters have been reluctant to approve expenditures for property acquisition. There are physical and geographic problems in the development of the waterfront in this area. The land between

Thames Street and the river is narrow and steep, which makes development on the waterfront difficult. The area is exposed to the full width of the New London Harbor, and the predominant west or southwest winds produce rough seas which make keeping boats at docks difficult. The main harbor channel is very close to the shore at this point, and is used by a variety of vessel traffic. This adds to the wave wash problem. The water is deep close to the shore which makes development for the support of small boats expensive.

There are a few moorings in this area, but the limited space and lack of shore support facilities and public access has held down their number.

An important asset in this area is the state-owned boat launching facility under the Route I-95 bridge. Utilization of this facility by the general public should be encouraged.

It seems that the eventual revitalization of this area may well require large scale redevelopment. The multiplicity of small land holdings and properties with small frontage on the river make coordination of development projects difficult.

3.3 Area B: Industrial Area

As described in Chapter 2 of this plan, three large industrial firms are located on this section of waterfront. These are the Electric Boat Corporation which builds nuclear-powered submarines for the U.S. Navy, the Amerada Hess Corporation, which operates a large oil terminal, and Pfizer, Inc., a pharmaceutical firm. All of these are water-dependent activities. The Electric Boat Corporation uses its waterfront for shipbuilding and ship support. At the Amerada Hess Corporation seagoing tankers and barges are off-loaded, and Pfizer, Inc. has barges at the wharf.

This area contains a concentrated economic base of manufacturing employment in southeastern Connecticut. It is essential that this plan should not inhibit this economic activity. The need for additional dock space for large vessels can be foreseen, as well as the need for industrial use of the waterfront. As in the Thames Street area described above, the physical characteristics of the area will constrain future development. Here, also, the land area is narrow and steeply sloping, and the main ship channel is close to shore. The water between the channel and the shoreline, while too deep and exposed for easy marina development, is too shallow in many locations for large ships.

An important concern in this part of the river is the potential for oil and chemical spills into the river. The Harbor Management Commission is concerned about the potential for oil and chemical spills.

Within the city's waters, there is a security zone in the New London Harbor, established by the US Coast Guard. Nautical Chart 13213, published by the National Oceanic and Atmospheric Administration, shows the location of the security zone adjacent to the Electric Boat shipyard. The regulations pertaining to this zone are contained in the United States Coast Pilot 2 (Cape Cod to Sandy Hook). The security zone, which is shown on Figure 2-3 on page 16, is to prevent unauthorized entry into the zone and is maintained by Electric Boat security personnel. For reference the regulations are quoted herein.

A 25 yard permanent Regulated Navigation Area (RNA) has been established by USCG around all bridge foundations, support stanchions, piers or abutments in the Captain of the Port, Long Island Sound Zone.

Subpart D – Security Zones **§165.30 Security zones.**

(a) A security zone is an area of land, water, or land and water which is so designated by the Captain of the Port or district Commander for such time as is necessary to prevent damage or

injury to any vessel or waterfront facility, to safeguard ports, harbors, territories, or waters of the United States or to secure the observance of the rights and obligations of the United States.

No persons, work barges or vessels of any type may enter into these regulated navigation areas without advance approval from USCG Captain of the Port, Long Island Sound.

(b) The purpose of a security zone is to safeguard from destruction, loss, or injury from sabotage or other subversive acts, accidents, or other causes of a similar nature-

- (1) Vessels.
- (2) Harbors.
- (3) Ports and
- (4) Waterfront facilities—in the United States and all territory and water, continental or insular, that is subject to the jurisdiction of the United States.

§165.33 General regulations.

Unless otherwise provided in the special regulations in Subpart F of this part-

(a) No person or vessel may enter or remain in a security zone without the permission of the Captain of the Port;

(b) Each person and vessel in a security zone shall obey any direction or order of the Captain of the Port;

(c) The Captain of the Port may take possession and control of any vessel in the security zone;

(d) The Captain of the Port may remove any person, vessel, article, or thing from a security zone.

(e) No person may board, or take or place any article or thing on board, any vessel in a security zone without the permission of the Captain of the Port; and

(f) No person may take or place any article or thing upon any waterfront facility in a security zone without the permission of the Captain of the Port.

§165.140 New London Harbor, Connecticut—security zone.

(a) Security Zones—

(1) Security zone A. The waters of the New London Harbor west of the Electric Boat Division Shipyard enclosed by a line beginning at a point on the shoreline at

41°20'22.1"N.; 72°04'52.8"W.; then west to
41°20'28.7"N.; 72°05'03.5"W.; then to
41°20'53.3"N.; 72°05'06.6"W.; then to
41°21'03. N.; 72°05'06.7"W.; then due east to a point on the shoreline at
41°21'03.N.; 72°05'00.7"W.; then along the shoreline to the point of beginning.

(b) Special regulation. Section 165.33 does not apply to public vessels when operating in Security Zones A or to vessels owned by, under hire to, or performing work for the Electric Boat Division when operating in Security Zone A.

Although it is possible that the defense orientation of one of the major industries here might cause economic dislocation in the event of a decrease or change in priorities in defense spending, the final result of this cannot be predicted at this time. Thus, this Plan must assume that these industries will continue for the foreseeable future, and extensively utilize their collective waterfront areas.

3.4 Area C: Eastern Point

This portion of the City's shoreline can be divided into three areas, proceeding from north to south as follows: First, a well kept attractive residential area of turn-of-the-century single-family houses; next, a water-related recreational area containing the City-owned Eastern Point Beach, and the Shennecossett Beach Club; and third, the property of the University of Connecticut.

In the residential area, the shore is rocky and broken into house lots. There are a few moorings here for boats which belong to the property owners, but the lack of public access up to the present time, and the fact that the shoreline is exposed to winds and waves from the southwest, have limited their numbers. There is a splendid opportunity for public access to the shore as Pfizer, Inc. conveyed a parcel of waterfront land extending from Shore Avenue to the Thames River and provides approximately 1000 feet of shorefront access. This parcel contains two masonry piers and can be used for fishing and sightseeing.

It is essential that the recreational uses south of the residential area be conserved and enhanced. Eastern Point Beach is used principally for swimming but also for fishing and scuba diving during the seasons when the swimming areas are closed. There are no public boat launching facilities in this area, although it does seem possible that a launching ramp for dinghies could be developed here, perhaps at the "concrete beach" which forms an embankment along Shore Avenue. The Shennecossett Beach Club is a private club, the principal function of which is water-related sports, principally swimming, but there also is dinghy and board boat sailing off the beach.

The rocky shore in this area lends itself to lobstering. There are lobster pots here. Lobsters are also taken by scuba divers. There is also some waterskiing and personal watercraft activity. A water use plan which will allocate space to all of these activities is highly desirable.

There are two ponds or conservation areas along Shennecossett Road, one on the Beach Club property and one on property belonging to the University of Connecticut. While these areas are not specifically under the cognizance of the Harbor Management Commission, their existence should be noted, as they perform important drainage functions, as well as provide habitat for wildlife, notably shore birds.

At the University of Connecticut, the shoreline included in the map entitled Eastern Point Area is all open to the public. Much use is made of it by local residents for walking, jogging, and simply looking at the view. It is intended by the state that this use will continue. The marine-related activities of the university will be discussed in the next section.

3.5 Area D: Pine Island Bay

This area is the most active in the City with respect to recreational boating, and also supports the waterfront facilities of the University of Connecticut.

At the university property are docked boats of Project Oceanology which are used for educational purposes by the school systems of the surrounding towns. The University of Connecticut has fair and equitable access to the waterfront and has facilities sufficient to their needs. Also kept there are the smaller state research boats and the boats of the Coast Guard Research and Development

Center. The United States Coast Guard uses facilities at the Avery Point campus and presently makes only minor use of waterfront facilities.

At the Shennecossett Yacht Club, the Walsh Marina, and Pine Island Marina, are many slips for berthing pleasure boats plus numerous private docks in the bay. The Walsh Marina only rents dock space. It utilizes the fairway from the boat launch to the main fairway and also the main fairway to gain access to the Sound. Also located on Pine Island Bay is the state-owned Bayberry Lane boat launching facility. Also located here are many private waterfront residences. Some of these residences have piers at which moor pleasure boats of varying sizes are kept.

The potential exists for expansion of the university's water-related activities; notably those of the Marine Sciences Institute. Funds have been appropriated and construction has been substantially completed to upgrade the facilities at Avery Point to allow a four year degree in Marine Science.

Pine Island Marina rents moorings and the Shennecossett Yacht Club maintains approximately 39 moorings and provides launch service to any Shennecossett Yacht Club members on General Public moorings.

There are also private moorings owned by individuals. The Harbor Master has the responsibility for the allocation of moorings. A temporary shortage of moorings was created when the U.S. Army Corps of Engineers and the Connecticut Department of Environmental Protection required the removal of the southernmost row of moorings from the north anchorage area in Pine Island Bay. The fairway from the Bayberry Lane boat launch southwesterly in front of the Pine Island Marina and Shennecossett Yacht Club piers provides a safer and more direct access for boaters to enter Fisher's Island Sound.

The existing transient area off of the northwest end of Pine Island contains several anchorage sites and two transient moorings. Experience has shown the demand for transient moorings in Pine Island Bay is low. Additional transient moorings are not required for the foreseeable future. Demand for transient anchorages and demand for transient moorings should be evaluated by the Harbormaster and the Harbor Management Commission if this is found necessary. There is no fee presently for use of the transient moorings. These are available on a first come first serve basis. Publicity of these moorings shall be left to the Harbormaster. The system does not require coordination between the Harbormaster and the dockmasters as General Public moorings cannot be used by transient boaters.

Pine Island Bay is subject to wave action from the south and southwest. To help in alleviating this problem, the City of Groton, the University of Connecticut, the Shennecossett Yacht Club, and Pine Island Marina have cooperated in the construction of a breakwater extending southeasterly from Avery Point. This breakwater provides some protection from waves out of the southwest; however, the central and east parts of the bay are still subject to wave action.

The potential exists for Pine Island Bay to be used for aquaculture. The potential for conflicts occur when the aquaculture area and recreational areas overlap. The needs of the many different users of the water need to be balanced in any decisions regarding permit requests for installation of aquaculture structures and equipment.

3.6 Area E: Baker Cove

A consideration here is that much of the shorefront land is in the flood hazard area. While regulations of development in the flood hazard area are under the cognizance of the Planning and Zoning Commission, it is important that this Plan recognize the problem.

The small area and frontage on the cove of some of the residential lots requires the coordination of plans for dock construction between properties so that construction of a dock on one property will not limit the use of the water by its neighbors. Dock lengths could also be a problem as long docks could limit the cove's navigability.

At Calf Pasture Cove to the north of the intensively developed residential area there is some very attractive undeveloped shorefront. These should be preserved for aesthetic, historical and ecological reasons. Especially important is the preservation of views, notably from Shennecossett Road.

Moving northwards again, we come to the Elks Club property and marina. This marina has expanded its facilities, and more expansion can be expected, even though the boats must be small because of the shallowness which extends to the Thomas Road bridge. North of the bridge lies the City-owned open space area which will be described in the next section.

There are private aids to navigation north of Chapman's Boatyard leading to the Elk's Club which are maintained by the Elk's Club. There is also City maintained no wake buoy located at the entrance to Baker Cove between the southern tip of Jupiter Point and Bushy Point Island. City ordinance and Sec. 15-121-B15L Pine Island Bay and Baker Cove Regulation of the Connecticut Department of Environmental Protection Boating regulations makes Baker Cove a no wake zone with a maximum speed of six miles per hour which should help prevent accidents.

3.7 Area F: Birch Plain Creek

This is a fragile and important environmental area. (See Map F) Another topic of concern here is public access, both by land and by boat. Access by land is available on four properties: The City owned Birch Plain Creek Conservation Area, the City-owned open space area at the end of Paul Revere Road and Nathan Hale Road, West Side Junior High School, and the Town-owned open space north of West Side Junior High School. All of these properties are utilized as passive open space areas and for teaching. The private properties along the creek all contain salt marsh areas. Development here is limited by the state statutes controlling activities in tidal wetlands. CGS section 22a-28 through section 22a-35 (Tidal Wetlands Act). Nevertheless, it is felt that dock construction should be discouraged in this area in order to help preserve the natural resources of Birch Plain Creek.

Access by boat is limited by the size of the creek. It is highly desirable to prohibit use of motors north of the Thomas Road Bridge because of the potential damage to the marshy banks from wakes and because of the possibility of pollution.

There is a concern here that increasing development of upland areas is causing an increase in storm water run-off, which is changing the salinity of the creek, resulting in the ecological characteristics of the marsh. However, this is a problem primarily for the Conservation Commission, although the Harbor Management Commission has voted to support a request for an increase in size of the opening of the Thomas Road Bridge in order to increase water flow and tidal flushing action. The bridge opening was recently enlarged by the Town.

This is a very beautiful area offering many opportunities for the observation of nature and the study of wildlife. Such a resource is a valuable asset for an urban municipality. The Harbor Management Commission must work in harmony here with the activities of the Conservation Commission in order to ensure that the area is appropriately managed.

4. GOALS, OBJECTIVES AND POLICIES

The goals and objectives listed here are derived directly from the issues, problems and opportunities discussed in the previous chapter. The same division of the City's waterfront into geographic areas based on topography and land use has been employed. These divisions are illustrated in Figures 2-2 through 2-7, and their locations are shown on Figure 2-1.

4.1 General Goals

1. Allocate water areas to appropriate uses in order to allow the maximum utilization of those areas with minimum interference between uses and minimum detrimental environmental impacts.
2. Where necessary and appropriate, regulate one or more of the following aspects of moorings:
 - a. Location
 - b. Occupancy
 - c. Tackle Specifications
3. Monitor speeds and wakes of vessels.
4. Encourage use of shore front areas for public access to the waterfront. Public access includes not only physical access but visual access, i.e., preservation of water views.
5. Encourage the installation of sewage pump-out or dump facilities.

4.2 Area A: Groton Bank

1. Objectives:

- a. Encourage economic development, including, but not limited to:
 1. Ferry/Sightseeing Boats
 2. Marina Development
 3. Tourist/Sportfishing boats
 4. Facilities for commercial fishing boats
 5. Cruise ship berthing
- b. Keep Thames River channel free of obstructions. There is a sunken vessel marked by a nun buoy, east of the Channel below the Thames Inn.
- c. Provide for the equitable utilization of the available resources by commercial interests and residents of the Thames Street area.
- d. Encourage public access and passive recreation.
- e. Encourage use of state boat launch area.
- f. Encourage accommodation for transient vessels.

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2. Policies to ensure proper utilization:

a. Shoreline Development Guidelines

- 1. Limit pier development within guidelines recommended by the US Army, Corps of Engineers.**
- 2. Provide adequate water space between docks so as not to interfere with neighbors.**
- 3. Coordinate review of dock proposals with review of Coastal Site Plans and site plans by the Planning and Zoning Commission to minimize land/water utilization conflicts.**

b. Mooring Regulations

- 1. Limit mooring locations within guidelines recommended by the US Army, Corps of Engineers.**
- 2. Mooring permits required**

a. Mooring locations to be approved by the Harbor Master.

b. Mooring tackle to be approved by the Harbor Master using the following guidelines; Mooring gear shall consist of a mushroom anchor, heavy chain (1.5 times maximum depth of water), light chain (length equals maximum depth of water), white with blue stripe mooring buoy (marked with weight of anchor, boat owners name, assigned mooring number), 15' nylon pennant. Mooring gear shall be inspected annually and is the sole responsibility of the boat owner.

c. Transient vessels

- 1. Encourage commercial guest moorings**
- 2. Encourage dock owners to provide space for transients**

d. Encourage all new marinas or yacht clubs or any existing marina or yacht club undergoing 25% or more expansion to install and maintain pump-out and dump facilities at a location suitable to the Harbor Management Commission unless there are presently adequate pump-out facilities and dump facilities available to the general public that will support the boating traffic. Expansion percentage shall be determined by the increase in the number of slips versus existing slips. However, final decision on whether or not to require installation of pump out or dump facilities shall be left to the Connecticut Department of Environmental Protection Office of Long Island Sound Programs.

e. Encourage public access of all types through the review of Coastal Site Plans referred to the Harbor Management Commission by the Planning and Zoning Commission and Zoning Board of Appeals.

4.3 Area B: Industrial Area

1. Objectives:

- a. Support development by industry as improving the economic situation and tax base in the City, at the same time, guide such development in order to prevent adverse impacts.**
- b. Maintain clear access for shipping to industrial facilities.**

- c. As far as possible, prevent occurrence of oil and chemical spills and facilitate cleanup operations.
 - d. Keep New London Harbor and channel free of obstruction.
 - e. Maintain security zone in front of Electric Boat Division.
 - f. Recognize and support recreational boating activity by industries in this area.
2. Policies to ensure proper utilization:
- a. Shoreline Development Guidelines
 - 1. Limit pier development within guidelines recommended by the US Army, Corps of Engineers.
 - 2. Encourage open piling construction or floating construction
 - 3. Encourage shared water space
 - 4. Provide adequate water space between docks so as not to interfere with neighbors.
 - 5. Coordinate review of dock proposals with review of Coastal Site Plans and site plans by the Planning and Zoning Commission to minimize land/water utilization conflicts.

4.4 Area C: Eastern Point

1. Objectives:
- a. Maintain character of shoreline from Circle Avenue southwards to Tyler Avenue.
 - b. Encourage utilization by City residents and the general public of the area's natural and man-made features for a diversity of water-related recreational uses, but with minimum conflict between those uses.
 - 1. Swimming
 - a. Swimming at Eastern Point Beach for the general public.
 - b. Swimming at Avery Point for the general public

The following activities occur throughout the area. No conflicts are known to exist.

 - 2. Scuba diving
 - 3. Waterskiing
 - 4. Fishing from shore
 - 5. Lobstering
 - 6. Dinghy and board boat sailing
 - c. Support full utilization by the City's residents of the facilities at Eastern Point Beach.
 - d. Encourage use of the shoreline at the University of Connecticut property at Avery Point for recreation.
2. Policies to ensure proper utilization:
- a. Designate "No Motors" area or areas for swimming in full compliance with the Boating Regulations of the DEP Bureau of Outdoor Recreation, Boating Division.
 - b. Monitor speeds and wakes of vessels.

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c. Establish mooring permit regulations.

1. Location: (No grid necessary due to lack of demand at this time.)
2. Mooring tackle to be approved by the Harbor Master using the following guidelines; Mooring gear shall consist of a mushroom anchor, heavy chain (1.5 times maximum depth of water), light chain (length equals maximum depth of water), white with blue stripe mooring buoy (marked with weight of anchor, boat owners name, assigned mooring number), 15' nylon pennant. Mooring gear shall be inspected annually and is the sole responsibility of the boat owner.

d. Of the activities listed above, lobstering, fishing from shore, and dinghy sailing need no regulation by the Harbor Management Commission. However, the Commission must maintain continuing coordination with the Beach and Parks Committee to monitor changes in activities.

e. Encourage the City of Groton to permit public access to their waterfront.

4.5 Area D: Pine Island Bay

1. Objectives:

a. Achieve equitable utilization of the resources available in Pine Island Bay by the following groups:

1. Residential property owners
2. University of Connecticut
3. Marine Sciences Institute
4. Project Oceanology
5. Shennecossett Yacht Club
6. Marinas
7. Private mooring owners
8. State boat launch users
9. General Public
10. Transient boaters
11. U.S. Coast Guard

b. Enhance the available physical resources of Pine Island Bay to alleviate the following problems:

1. Siltation of Pine Island Bay including access to the state boat launch ramp.
2. Wave action from the southwest which enters Pine Island Bay between Avery Point and Pine Island.
3. Pollution caused by pumping of wastes over-board and dumping of garbage from vessels in the bay. The EPA has approved Connecticut's designation of a "No Discharge" area in Connecticut coastal waters from the Rhode Island Border to Eastern Point.

2. Policies to ensure proper utilization:

- a. Continue engineering studies to find a solution to wave action problems and develop potential solutions, consistent with the Connecticut Coastal Management Act and the CT Structures, Dredging & Fill in Tidal, Coastal, or Navigable Waters Act.

- b. Encourage good environmental use of Pine Island and Pine Island Bay.
- c. Establish Mooring Regulations
 - 1. Mooring grid
 - 2. Mooring assignment procedure
 - 3. Mooring tackle specifications
- d. Encourage all new marinas or yacht clubs or any existing marina or yacht club undergoing 25% or more expansion to install and maintain pump-out and dump facilities at a location suitable to the Harbor Management Commission unless there are presently adequate pump-out and dump facilities available to the general public that will support the boating traffic. Expansion percentage shall be determined by the increase in the number of slips versus existing slips. However, final decision on whether or not to require installation of pump out

or dump facilities shall be left to the Connecticut Department of Environmental Protection Office of Long Island Sound Programs.

- e. Monitor the demand for the transient area and the need for transient moorings as well as transient anchorages.
- f. Maintain fairways at existing locations as defined by Connecticut DEP and US Army Corps of Engineers permits to the Shennecossett Yacht Club and Pine Island Marina.
- g. Support development of environmentally sound aquaculture as an effective use of our natural resources.
- h. Review and consider all requests for aquaculture permits and will provide recommendations in a timely manner to all appropriate State and Federal regulatory agencies.
- i. Recognize that "safety to navigation" includes commonly used fairways as well as navigable channels marked by buoys.

4.6 Area E: Baker Cove

1. Objectives:

- a. Preserve and encourage appropriate educational and passive recreational uses of the fragile and valuable salt marsh areas at the northern end of Baker Cove and Calf Pasture Cove.
- b. Achieve equitable utilization of the resources of Baker Cove by conservation, recreational, water-related commercial, and residential uses.
- c. Enhance the available physical resources in Baker Cove by maintaining the existing channel, until its abandonment in favor of the fairway envisioned under the "Policies" below, taking steps to prevent siltation and to protect shore areas from wave action due to the breach between Bushy Point and the Bluff Point Coastal Reserve.
- d. Encourage all new marinas or yacht clubs or any existing marina or yacht club undergoing 25% or more expansion to install and maintain pump-out and dump facilities at a location suitable to the Harbor Management Commission unless there are presently adequate pump-out and dump facilities available to the general public that will support the boating traffic.

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Expansion percentage shall be determined by the increase in the number of slips versus existing slips. However, final decision on whether or not to require installation of pump out or dump facilities shall be left to the Connecticut Department of Environmental Protection Office of Long Island Sound Programs.

2. Policies:

- a. Establish conservation areas for northern area below railroad bridge.
- b. Establish conservation areas for the waters of Calf Pasture Cove.
- c. Establish future fairway locations to provide a safe navigable route for pleasure and commercial craft.
- d. Boat operation regulations
 - 1. Monitor speed and wake in channel
 - 2. Monitor outboard powered boats in environmentally sensitive areas. See map on page 38.

4.7 Area F: Birch Plain Creek

1. Objectives:

- a. Encourage the preservation for appropriate educational and passive recreational uses the marsh areas along Birch Plain Creek
- b. Encourage use of City property for park and appropriate small craft activity

2. Policies:

- a. Limit navigation of the creek to non-powered vessels in full compliance with the Boating Regulations of the DEP Bureau of Outdoor Recreation, Boating Division.
- b. Encourage changes to the railroad and Thomas Road bridges in order to increase water exchange.
- c. Limit dock and pier construction because of potential for damage to marsh areas
- d. Support the development of the City property for a park

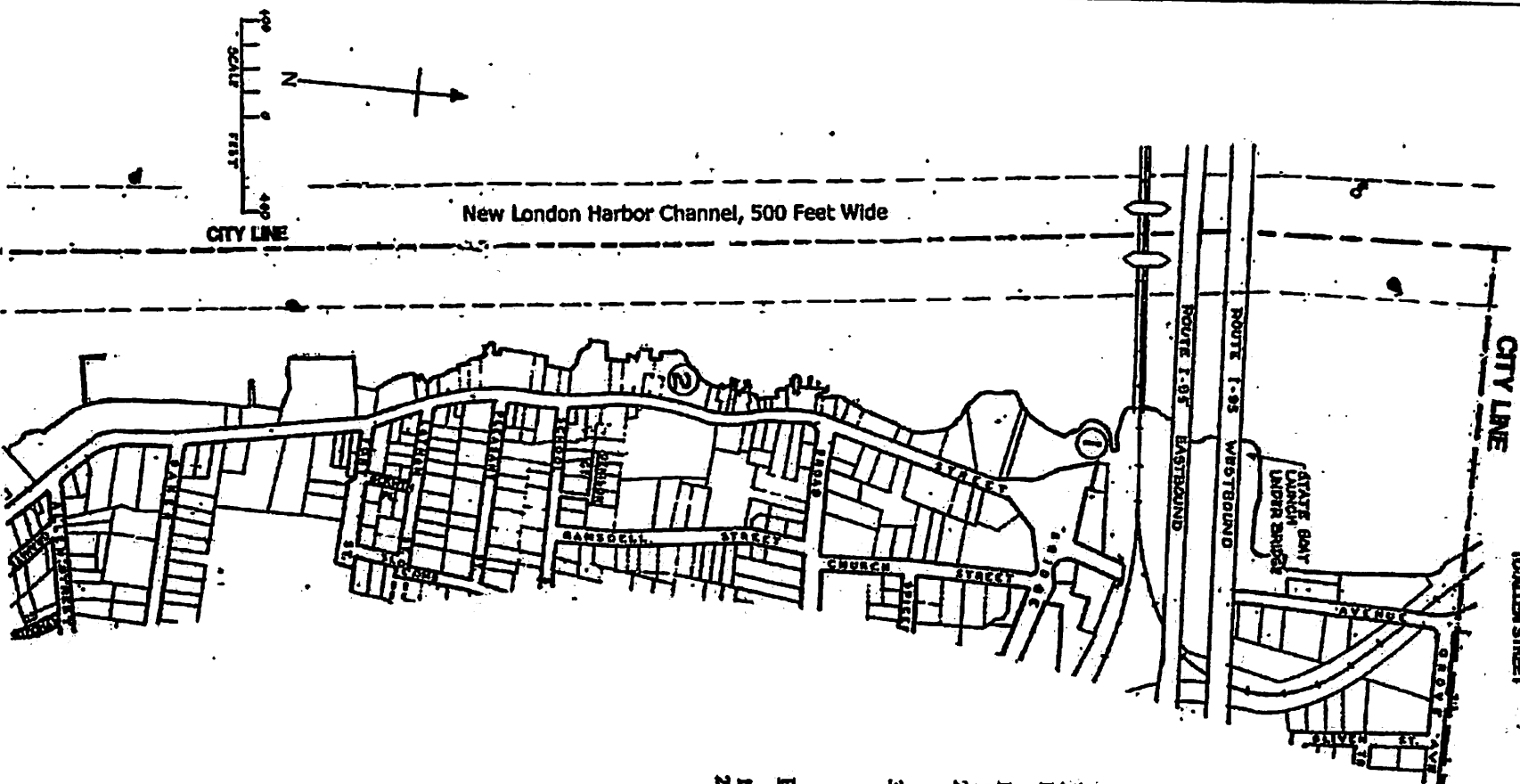
5. WATER USE PLAN

This chapter consists of seven maps, one for each of the six geographic segments which are described in Chapter 3 plus a mooring grid for Pine Island Bay. These maps depict in graphic form the specific policies which the Harbor Management Commission has adopted for each of the City's diverse geographic areas. The maps thus provide a link between the policies enumerated in the previous chapter and the Harbor Management Ordinance contained in Appendix C. The maps also form part of the Ordinance, and are adopted as such by reference. They make up a plan for the use of the City's waters.

WATER USE PLAN MAP A

GROTON BANK

THIS MAP COVERS AREA FROM NORTHERN CITY LINE TO ALLEN STREET



MOORINGS

Anywhere in the City, the Harbormaster Must approve moorings.

In area covered by map:

1. Harbormaster must approve locations
2. Mooring locations must be in accordance with guidelines of the US Army, Corps of Engineers
3. No grid system is planned

Potential Public Access Sites

1. Bridge sidewalk
2. Purkins Restaurant

Figure 5-1

WATER USE PLAN MAP B

INDUSTRIAL AREA

THIS MAP COVERS AREA FROM ALLEN ST. TO SOUTHERN END OF PROPERTY OF PFIZER INC.

SECURITY ZONE

EXTENDS FROM NORTHERN AND SOUTHERN LIMITS INDICATED AND BETWEEN SHORELINE AND EASTERN EDGE OF THAMES RIVER CHANNEL

MOORINGS

PROHIBITED IN AREA COVERED BY THIS MAP

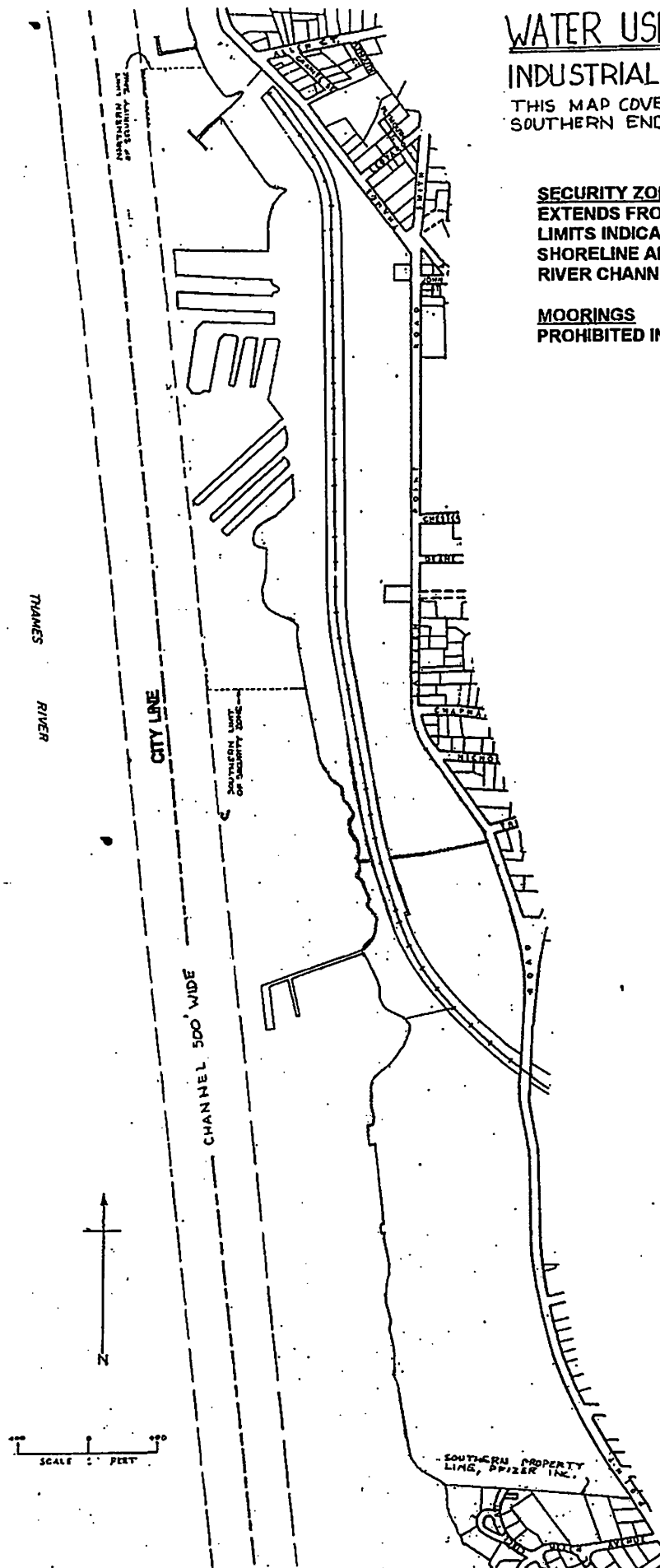


Figure 5-2

WATER USE PLAN MAP C

EASTERN POINT

THIS MAP COVERS AREA FROM SOUTHERN END OF
PFIZER INC. PROPERTY TO SOUTHEASTERN EXTREMITY
OF AVERY POINT

LEGEND

- (A) MOORING AREA
- (B) AREA WHERE USE OF MOTORS IS PROHIBITED
- XXXX SWIMMING BEACH

MOORINGS

ANYWHERE IN CITY HARBORMASTER MUST APPROVE
TACKLE.
IN AREA COVERED BY THIS MAP HARBORMASTER MUST
APPROVE LOCATION
NO MOORING CRIP IS PLANNED IN THIS AREA

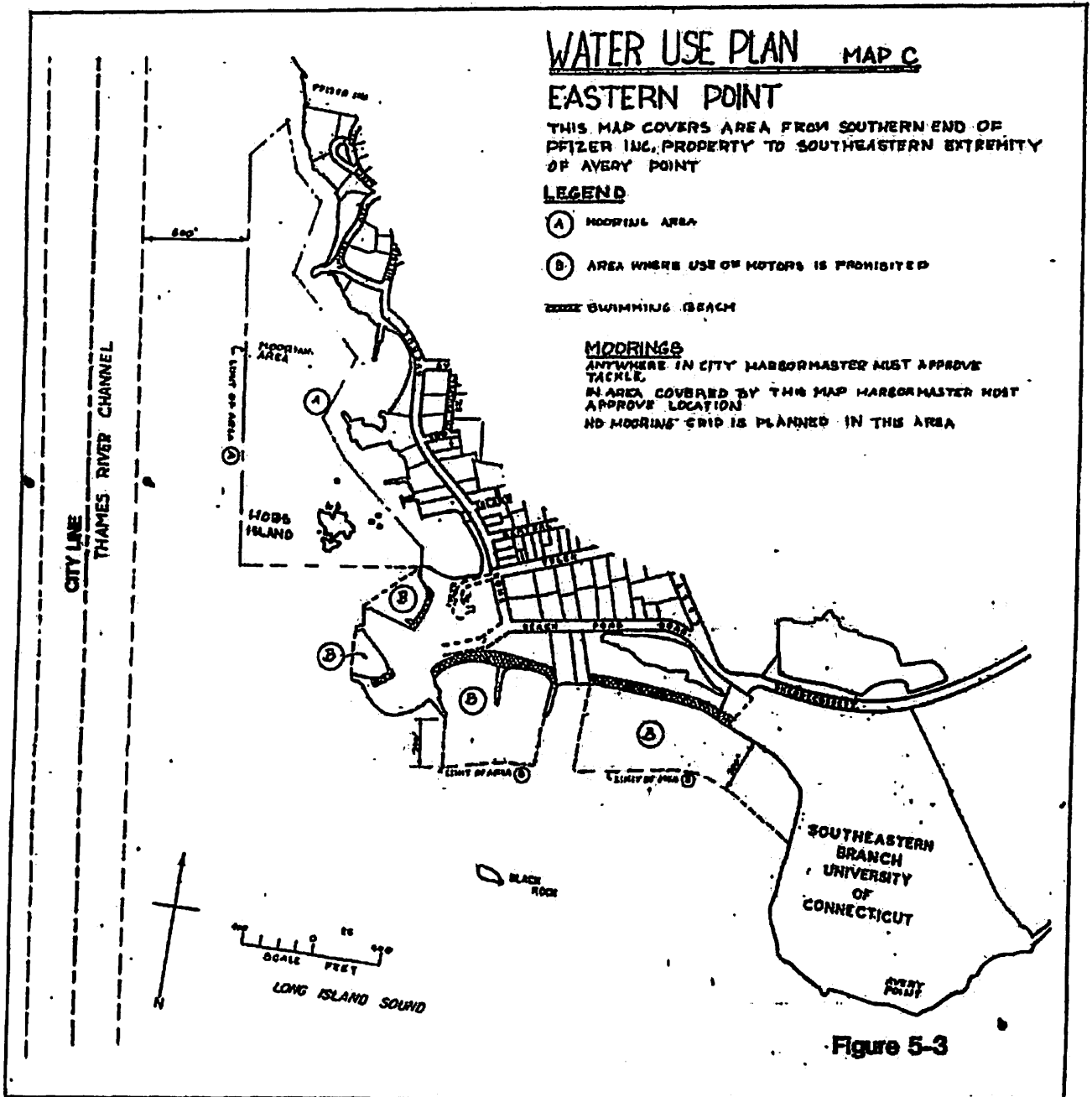


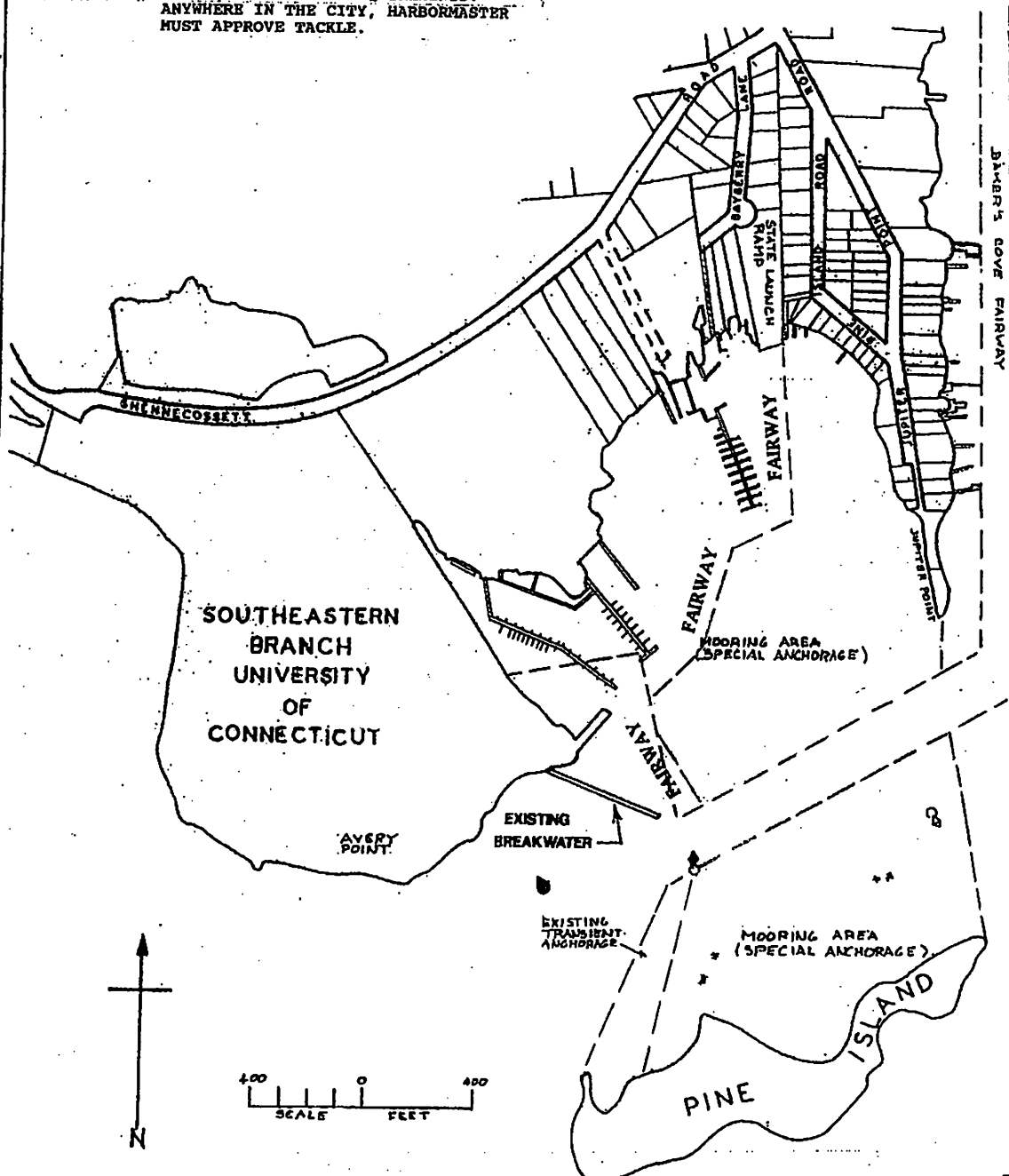
Figure 5-3

WATER USE PLAN MAP D

PINE ISLAND BAY

THIS MAP COVERS AREA NORTH OF PINE ISLAND FROM SOUTHEAST EXTREMITY OF AVERY POINT TO SOUTHERN END OF JUPITER POINT

MOORINGS: SEE ORDINANCE FOR REQUIREMENTS. ANYWHERE IN THE CITY, HARBORMASTER MUST APPROVE TACKLE.



SPECIFIC TOPOGRAPHIC, HYDROGRAPHIC, MOORING AND FAIRWAY DETAILS ARE SHOWN ON PAGE 40

Figure 5-4

THE DEP HAS NOT ENDORSED ANY PROPOSED FAIRWAYS

WATER USE PLAN MAP E

BAKER COVE

THIS MAP COVERS AREA FROM SOUTHERN END OF JUPITER POINT TO THE BAKER COVE RAILROAD BRIDGE

MOORINGS
IN AREA COVERED BY THIS MAP,
MOORINGS ARE PROHIBITED
EXCEPT AS NOTED IN PARA. 6-3.8.25

**AREAS OF SPECIAL
ECOLOGICAL CONCERN**

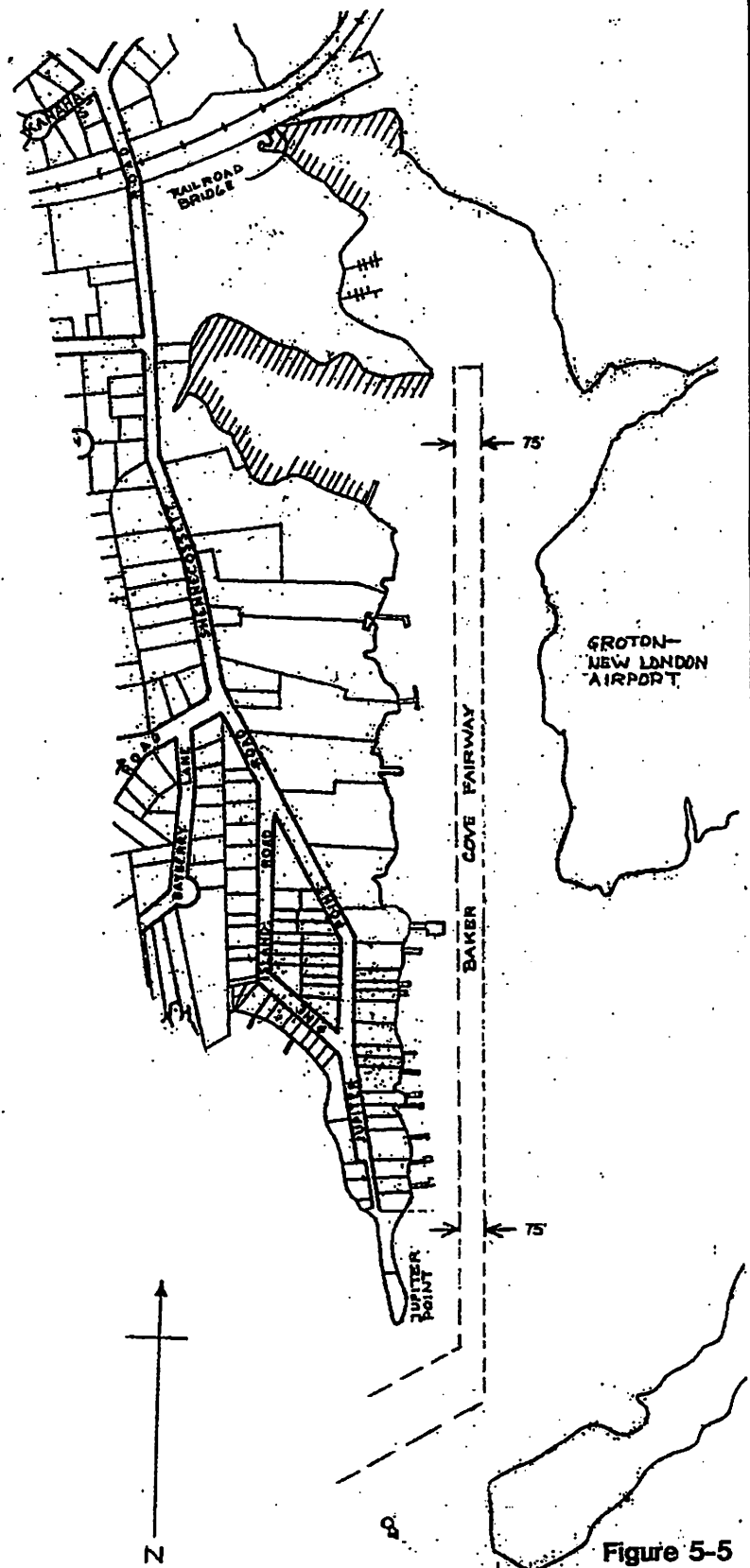


Figure 5-5

WATER USE PLAN MAP F

BIRCH PLAIN CREEK

THIS MAP COVERS AREA FROM P&W RAILROAD BRIDGE NORTH TO DOQUONNOCK ROAD

AREAS OF SPECIAL ECOLOGICAL CONCERN :

PUBLICLY OWNED



PRIVATE



USE OF MOTORS

IN AREA COVERED BY THIS MAP, NO MOTORS ARE TO BE USED WITH THE EXCEPTION OF ELECTRIC MOTORS, IN ORDER TO PROTECT NATURAL RESOURCES.

MOORINGS

IN AREA COVERED BY THIS MAP, MOORINGS ARE PROHIBITED

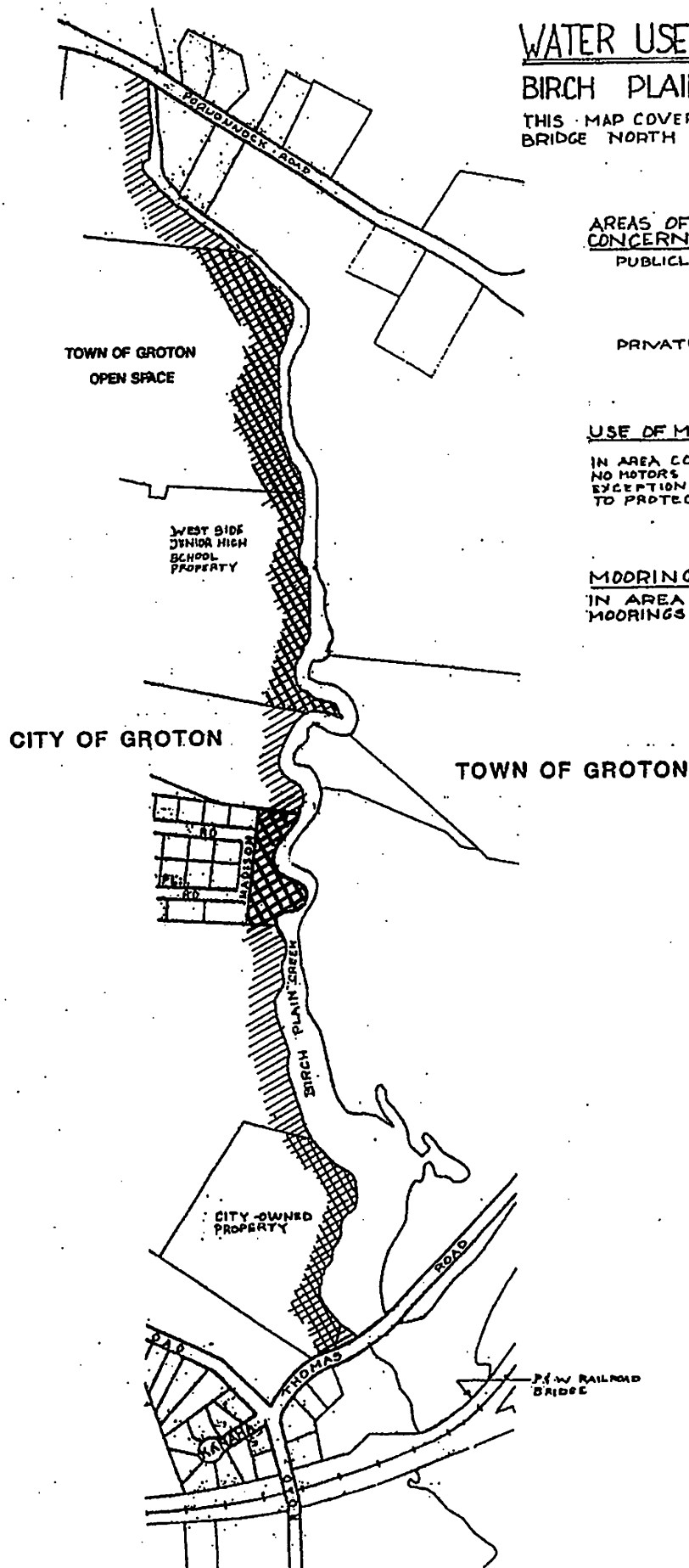


Figure 5-6

MOORING COORDINATES

MOORING	EASTING	NORTHING	MOORING	EASTING	NORTHING	MOORING	EASTING	NORTHING
A6	1189593.3	677834.3	L10	1190209.8	677220.7	Q12	1190596.9	676764.6
A7	1189662.4	677863.4	L11	1190274.3	677258.9	Q13	1190661.9	676802.1
B6	1189622.4	677765.1	L12	1190338.8	677297.2	Q14	1190726.9	676839.6
B7	1189691.5	677794.3	L13	1190403.3	677335.5	R1	1189919.6	676287.6
C5	1189582.1	677666.6	L14	1190467.8	677373.8	R2	1189984.6	676325.1
C6	1189651.3	677695.8	L15	1190532.3	677412.0	R3	1190049.5	676362.6
C7	1189720.3	677724.9	M1	1189660.4	676818.3	R4	1190114.5	676400.0
C14	1190146.5	677968.2	M2	1189726.4	676853.9	R5	1190179.5	676437.4
D4	1189542.3	677568.3	M3	1189792.4	676889.6	R6	1190244.5	676474.9
D5	1189611.3	677597.4	M4	1189858.4	676925.2	R7	1190309.5	676512.4
D6	1189680.4	677626.6	M5	1189922.9	676963.3	R8	1190374.4	676549.8
D7	1189749.5	677655.8	M6	1189987.4	677001.6	R9	1190439.4	676587.3
D13	1190117.8	677863.9	M7	1190051.9	677039.9	R10	1190504.4	676624.8
D14	1190182.3	677902.1	M8	1190116.5	677078.1	R11	1190569.4	676662.2
E4	1189571.4	677499.2	M9	1190181.0	677116.4	R12	1190634.4	676699.7
E5	1189640.5	677528.4	M10	1190245.5	677154.6	R13	1190699.3	676737.1
E6	1189709.6	677557.6	M11	1190310.0	677192.9	R14	1190764.3	676774.6
E7	1189778.6	677586.8	M12	1190374.5	677231.2	S1	1189957.0	676222.6
E13	1190153.4	677797.8	M13	1190439.0	677269.4	S2	1190022.0	676260.1
E14	1190217.9	677836.1	M14	1190503.5	677307.7	S3	1190087.0	676297.6
F5	1189669.6	677459.3	M15	1190568.0	677345.9	S4	1190152.0	676335.0
F6	1189738.8	677488.4	N1	1189696.0	676752.3	S5	1190217.0	676372.5
F7	1189807.9	677517.6	N2	1189762.0	676787.9	S6	1190281.9	676409.9
F13	1190189.1	677731.8	N3	1189828.0	676823.6	S7	1190346.9	676447.4
G5	1189698.9	677390.2	N4	1189894.0	676859.2	S10	1190541.9	676559.8
G6	1189767.9	677419.4	N5	1189958.6	676897.3	S11	1190606.8	676597.3
G12	1190160.3	677627.4	N6	1190023.1	676935.6	S12	1190671.8	676634.7
G13	1190224.8	677665.8	N7	1190087.6	676973.8	S13	1190736.8	676672.2
H5	1189728.0	677321.1	N8	1190152.1	677012.1	S14	1190801.8	676709.6
H7	1189873.5	677370.1	N9	1190216.6	677050.3	T2	1190059.5	676195.1
H8	1189938.0	677408.4	N10	1190281.1	677088.6	T3	1190124.5	676232.6
H9	1190002.5	677446.6	N11	1190345.6	677126.9	T4	1190189.5	676270.1
H10	1190067.0	677484.9	N12	1190410.1	677165.1	T5	1190254.4	676307.5
H11	1190131.5	677523.1	N13	1190474.6	677203.4	T6	1190319.4	676344.9
H12	1190196.0	677561.4	N14	1190539.1	677241.6	T11	1190644.3	676532.3
H13	1190260.5	677599.7	N15	1190603.6	677279.9	T12	1190709.3	676569.8
I6	1189844.6	677265.8	O1	1189731.6	676686.3	T13	1190774.3	676607.2
I7	1189909.1	677304.1	O2	1189797.6	676721.9	T14	1190839.3	676644.6
I8	1189973.6	677342.3	O3	1189863.6	676757.6	U2	1190097.0	676130.1
I9	1190038.1	677380.6	O4	1189929.6	676793.2	U3	1190161.9	676167.6
I10	1190102.6	677418.8	O5	1189994.3	676831.3	U4	1190226.9	676205.1
I11	1190167.1	677457.1	O6	1190058.8	676869.5	U5	1190291.9	676242.6
I12	1190231.6	677495.4	O7	1190123.3	676907.8	U6	1190356.9	676280.0
I13	1190296.3	677533.6	O8	1190187.8	676946.0	U7	1190421.9	676317.4
J5	1189815.9	677161.4	O9	1190252.3	676984.3	U11	1190681.8	676467.3
J6	1189880.4	677199.8	O10	1190316.8	677022.6	U12	1190746.8	676504.8
J7	1189944.9	677238.0	O11	1190381.3	677060.8	U13	1190811.6	676542.2
J8	1190009.4	677276.3	O12	1190445.8	677099.1	V2	1190134.4	676065.2
J9	1190073.9	677314.5	O13	1190510.3	677137.3	V3	1190199.4	676102.6
J10	1190138.4	677352.8	O14	1190574.8	677175.6	V4	1190264.4	676140.1
J11	1190202.9	677391.1	O15	1190639.3	677213.9	V5	1190329.4	676177.6
J12	1190267.4	677429.3	P1	1189767.5	676621.1	V6	1190394.4	676215.0
J13	1190331.9	677467.6	P2	1189833.5	676656.6	V7	1190459.3	676252.5
J14	1190396.4	677505.9	P3	1189899.5	676692.2	V8	1190524.3	676289.9
K2	1189655.1	676985.9	P4	1189965.6	676727.8	V9	1190589.3	676327.4
K3	1189721.0	677021.5	P5	1190029.2	676765.0	W2	1190171.9	676000.2
K4	1189787.0	677057.2	P6	1190094.2	676803.2	W3	1190236.9	676037.7
K5	1189851.5	677095.4	P7	1190162.5	676842.1	W4	1190301.9	676075.1
K6	1189916.0	677133.7	P8	1190227.2	676880.4	W5	1190366.8	676112.6
K7	1189980.5	677171.9	P9	1190291.5	676918.7	W6	1190431.8	676150.1
K8	1190045.0	677210.2	P10	1190355.8	676956.6	W7	1190496.8	676187.5
K9	1190109.5	677248.5	P11	1190420.4	676995.2	X16	1189627.8	676170.3
K10	1190174.1	677286.8	P12	1190484.9	677033.3	X17	1189699.4	676147.9
K11	1190238.6	677325.0	P13	1190549.6	677071.5	Y16	1189605.4	676098.6
K12	1190303.1	677363.3	P14	1190609.9	677109.3	Y17	1189677.0	676076.3
K13	1190367.6	677401.5	Q1	1189882.1	676352.6	Z16	1189583.1	676027.0
K14	1190432.1	677439.8	Q2	1189947.1	676390.1	Z17	1189654.8	676004.7
K15	1190496.6	677478.1	Q3	1190012.1	676427.5	AA16	1189560.9	675955.4
L2	1189690.8	676919.9	Q4	1190077.1	676465.0	AA17	1189632.5	675933.1
L3	1189756.8	676955.6	Q5	1190142.0	676502.4	BB16	1189538.6	675883.8
L4	1189822.6	676991.2	Q6	1190207.0	676539.9	BB17	1189610.3	675861.5
L5	1189887.3	677029.4	Q7	1190272.0	676577.4	CC15	1189444.8	675834.4
L6	1189951.8	677067.6	Q8	1190337.0	676614.8	CC16	1189516.4	675812.1
L7	1190016.3	677105.9	Q9	1190402.0	676652.3	CC17	1189587.9	675789.9
L8	1190080.8	677144.2	Q10	1190466.9	676689.8	DD16	1189494.0	675740.6
L9	1190145.3	677182.4	Q11	1190531.9	676727.2	DD17	1189565.6	675718.3

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6. HARBOR MANAGEMENT IMPLEMENTATION AND REGULATIONS

6-1 GENERAL PROVISIONS

6-1.1 The provisions of this chapter will be incorporated, where appropriate, in a City ordinance as provided by Article V, Section 14 of the City of Groton Charter, effective ~~December XX, 2006~~.

6-1.2 Applicability The provisions of this chapter and any rules and regulations adopted pursuant thereto shall be applicable, and shall govern the use of harbor lands, waters, and facilities under the jurisdiction of the City of Groton Harbor Management Commission. The ordinance shall be subordinate to all existing federal and state statutes and regulations affecting the City of Groton, and is not intended to preempt any other valid laws. The Harbor Management Commission may from time to time amend the following rules and regulations in accordance with the procedures for harbor management plan modifications in the Harbor Management Act.

6-1.3 Authorities The City of Groton Harbor Master, or his or her designee, under the direction of the City of Groton Harbor Management Commission, shall have the authority to carry out harbor management directives and enforce all provisions of the Harbor Management Plan, including the ordinance. The harbor master, or his or her designee, may cite any alleged violators of the ordinance.

6-1.4 Violations Any violation of the ordinance shall be a municipal infraction and a fine not to exceed \$100.00 shall be imposed for each conviction hereunder. Each day in violation shall be considered a separate, repeat offense and subject to separate citations. A fine not to exceed \$100.00 shall be imposed for each repeat offense.

6-1.5 Water Use Plan The Water Use Plan, Chapter 5 of the Harbor Management Plan, is hereby incorporated in the ordinance by reference. It indicates the geographic locations where the various provisions of the ordinance apply.

6-1.6 Harbor Management Fund A Harbor Management Fund will be created to receive and expend monies for harbor management purposes determined by the Harbor Management Commission. All revenues generated by (1) permits, if a fee for mooring permits is approved, and (2) fines levied under the provisions of the Harbor Management Ordinance shall be deposited into this fund. Funds shall be disbursed for purposes directly associated with the management of the waters of the City of Groton and implementation of the City of Groton Harbor Management Plan. Monies from this fund may be allocated to the Harbor master, or his or her designee, for the purpose of enforcing the provisions of the City of Groton Harbor Management Plan and/or the Harbor Management Ordinance. The Harbor Management Fund shall be established, budgeted, and administered in a manner consistent with the procedure contained within the City of Groton Charter and Connecticut General Statutes Section 22a-113s.

6-1.7 Amendment Procedure A modification to the plan may be proposed at any time and shall be approved in the same manner as the original plan. To begin this process, the proposed modification shall be presented to the Harbor Management Commission. The plan shall be reviewed annually by the commission and the Commissioners of Environmental Protection and Transportation pursuant to Section 22a-113m of the Harbor Management Act.

6-2 FEES

6-2.1 The Harbor Management Commission shall set a schedule of fees for mooring permits, pursuant to Section 22a-113s of the Connecticut General Statutes.

6-2.2 The fee schedule shall be set by the Harbor Management Commission by November 10th. If the schedule is not set by November 10th, the previous year's fee schedule shall govern until the next season.

6-2.3 There shall be no fee for properly authorized swimming rafts or governmental moorings.

6-2.4 Fees shall be collected by the Harbor Master and deposited to the General Fund of the City of Groton.

6-2.5 Funding of the Harbor Management Commission shall be provided for in accordance with the budgeting process of the City of Groton.

6-3 HARBOR REGULATIONS

These regulations are designed to regulate activities in the waters of the City of Groton. The Harbor Management Commission may from time to time amend the following rules and regulations, however, the Harbor Management Commission cannot amend state regulations.

6-3.1 Wake Regulations Vessels are to operate in accordance with state regulation Sec. 15-121-B15I. Pine Island Bay and Baker Cove Regulation.

Effective May 19, 1994

On the waters of Pine Island Bay and Baker Cove, both located in the City of Groton and the Noank section of the Town of Groton bounded on the west by a line extending from the southernmost point of Avery Point to the westernmost point of Pine Island and bounded on the east by a line extending from the southernmost point of the east bank of Baker Cove to the westernmost point of Bushy Point, the following restrictions shall apply from the fifteenth day of May through the fifteenth day of September:

- (a) All motorboats shall be operated at SLOW - NO - WAKE [with minimum wake, at a speed not to exceed six miles per hour];
- (b) No person shall water-ski and no person shall operate a vessel towing a water-skier.

6-3.1.1 Slow No Wake A vessel shall not produce more than a minimum wake and shall not attain speeds greater than 6 miles per hour over the ground unless a higher minimum speed is required to maintain steerageway when traveling with a strong current.

6-3.2 Speed Regulations Vessels are to operate in accordance with state regulations Sec. 15-121-B14. Restricted speed limit.

Effective November 5, 1991

(a) [Except as provided in Section 15-121-A15(a)(4), no] NO person shall operate a motorboat at a speed in excess of [six miles per hour] SLOW - NO - WAKE within one hundred feet of shore, or of a dock, pier, float, or anchored or moored vessel, unless such

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motorboat is approaching such float, dock or shore for the purpose of enabling a person engaged in waterskiing to take off or land.

(b) The commissioner may temporarily limit vessel speed to SLOW -NO - WAKE in a construction area. Uniform state waterway marking system controlled area regulatory markers may be placed to indicate the SLOW - NO - WAKE area.

(c) Violation of subsection (a) of this section shall be an infraction.

(d) This section shall not preempt town ordinances or regulations which are adopted in accordance with Section 15-136 of the Connecticut General Statutes and which have more stringent speed limits or distance from shore limits.

6-3.3 Waterskiing Regulations Waterskiing is to be performed in accordance with state regulations.

6-3.4 Motor Regulations The use of motors may cause environmental damage or safety hazards in some areas; therefore, characteristics and use of motors are regulated. Pursuant to Connecticut General Statutes Section 15-136, ordinances pertaining to operation of vessels must be approved by DEP after local adoption.

6-3.4.1 Given the fragile nature of the habitat and the potential for wetland destruction, the use of an internal combustion engine to power any vessel is prohibited in Birch Plain Creek, north of the Providence and Worcester railroad bridge, with the exception of Law Enforcement Vessels. The use of battery powered electric motors is permitted.

6-3.5 Noise Abatement This prohibition includes, but is not limited to, operating a motor boat without an adequate muffler as provided under Connecticut General Statutes Section 15-129, loud offensive language or behavior, and playing of radios, musical instruments or other noise producing devices so loudly as to constitute a nuisance. No person shall leave a vessel without securing all halyards and other noise producing objects in such a manner as will effectively prevent the production of noise under all reasonably foreseeable conditions.

6-3.6 Discharge of Refuse The provisions of Connecticut General Statutes Section 22a-250, inclusive, shall be strictly enforced with respect to discharge of refuse.

6-3.7 Marine Sanitation Device The provisions of Connecticut General Statutes Sections 15-170 through 15-175, inclusive, shall be strictly enforced with respect to marine toilets.

6-3.8 Mooring Allocation/Assignment Pine Island Bay Mooring Grid is shown on Page 40 of this Plan. As per US Army Corps of Engineer's Permit #1990-00882 and Connecticut DEP Permit # 199500782-KH, those moorings inside the area shown in their permit are assigned to the Shennecossett Yacht Club for use by their members. Two moorings in the southern portion are to be designated "Transient Moorings". As per US Army Corps of Engineer's Permit #1982-00251 and Connecticut DEP Permit # 199600496-SG, those moorings inside the area shown in their permit are assigned to Pine Island Marina for its use by their customers. Individual assignment of these moorings will be controlled by Shennecossett Yacht Club and Pine Island Marina respectively. A single mooring permit is issued by the Harbormaster to Pine Island Marina with the total number of locations assigned to it. To obtain mooring space in Shennecossett Yacht Club a mooring space application must be submitted to the City of Groton harbor master and a copy must be submitted to the Shennecossett Yacht Club Mooring Committee. All other moorings will be individually assigned to the General Public.

6-3.8.1 The Eastern Point mooring area, as shown on the Water Use Plan, will be reserved for the general public and a separate waiting list will be established if required.

6-3.8.2 Moorings location, scope length, and minimum ground tackle are regulated to avoid impediments to navigation as well as moored boats interfering with each other. Locations where moorings are permitted are shown on the Water Use plan maps.

6-3.8.3 No mooring is to be placed in the waters of the City of Groton without a permit from the City of Groton Harbor Master. Moorings will be assigned without regard to residency.

6-3.8.4 Any mooring buoys so permitted by the Harbor Master must be in compliance with the shape, color and layout as required under existing Regulations of Connecticut State Agencies (RSCA) Sec.15-121-A3(a).

6-3.8.5 Any mooring permit granted by the City of Groton Harbor Master shall expire on December 15th in the year of its issue.

6-3.8.6 Application to the Harbor Master must be made on a form provided by the Harbor Master annually.

6-3.8.7 Upon granting a mooring permit, the Harbor Master shall send the permit to the applicant at the address shown on the permit application.

6-3.8.8 Any time a mooring location is eliminated due to improvements, expansions, etc., the persons holding a General Public Permit on said mooring will immediately move to the top of the mooring waiting list. Those that are Commercial or Yacht Club will absorb the loss without replacement.

6-3.8.9 Fees shall be set by the Harbor Management Commission no later than November 10th for the following year.

6-3.8.10 Applications may be made to the harbor master after December 1st. Applications for mooring permits will only be accepted for Connecticut registered vessels or documented vessels with a Connecticut certification decal. Connecticut vessels legally exempt from registration may also be granted mooring permits. Subleasing or long term loaning of a mooring to other than the designated permittee is prohibited.

6-3.8.11 Any applicant denied a permit may, at his option, have his name placed on a waiting list which shall be kept by the City Clerk, acting as the agent for the Harbor Master. This list shall be available to the general public during normal working hours.

6-3.8.12 No name shall be placed on the waiting list unless an application has been received.

6-3.8.13 If a suitable mooring becomes available the Harbor Master will notify the applicant. The applicant will have 30 days to make payment for the mooring permit. Upon payment for the mooring permit the Harbor Master will issue the permit. If the applicant fails to pay for the mooring permit no permit will be issued and the applicant will lose his place on the waiting list and go to the bottom of the list.

6-3.8.14 Beginning January 10th the Harbor Master shall fill available General Public mooring locations in the following order of priority:

- a. Applications from shorefront property owners whose land abuts the waterway in which the mooring is to be placed. This priority classification is usable for only one mooring per property.
- b. Previous year permits shall be renewed upon application, unless unused for more than one season by the permittee.

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c. Applications from private individuals.

d. Additional applications from clubs, associations, or marinas whose property abuts the waterway in which the mooring is placed. These permits shall be limited to one year and will not have the rights outlined in section 6-3.8.14 b,

6-3.8.15 Commercial mooring fields require a Corps of Engineers Permit under Section 10 of the Rivers and Harbors Act of 1899 and a Connecticut Department of Environmental Protection Permit. The Harbor Master will use his judgment in cases where he considers that mooring locations are a threat to public safety. Private moorings that are located in Federal Navigation Projects, associated with any boating facility or that may interfere with navigation need to be approved by the Corps of Engineers

6-3.8.16 In granting applications, the Harbor Master shall consider:

a. The priority list

b. Whether a suitable mooring location is available as to length of boat, type of boat, weight of boat, displacement and draft of boat.

c. The Harbor Master will be afforded reasonable discretion in enforcing these allocations/assignments for unusual or special circumstances such as extremely deep draft, use by handicapped and abutting property owners.

6-3.8.17 Available moorings shall be offered to the senior applicant on the mooring list, subject to the constraints contained in these regulations. If the available mooring location is not suitable to accommodate the senior applicant's vessel or specific needs, it shall be offered to the next senior qualified applicant. The senior applicant shall retain his or her place on the waiting list in this case. The Harbor Master shall continue efforts to provide a suitable mooring location for the senior applicant. If the senior applicant refuses a mooring location which is suitable for his or her vessel in the opinion of the harbor master, the person shall be moved to the bottom of the waiting list.

6-3.8.18 Moorings in Pine Island Bay shall be set on the grid points of the plan contained in the Harbor Management Plan and made part of this ordinance by reference. The grid points are on 75 foot centers. The scope length must be 45 feet.

6-3.8.19 Minimum mooring tackle requirements.

a. Minimum size for anchors and chains are given in the following table of specifications:

<u>Boat Length Overall</u>	<u>Minimum Mushroom Weight</u>	<u>Min Size of 1st 15 ft of Chain</u>	<u>Min Size of 2nd 15 ft of Chain</u>	<u>Min Size of 15 ft Polyester Pendant Diameter</u>
Under 15'	75#	1/2"	1/4"	3/8"
15' to 20'	100#	5/8"	5/16"	3/8"
20' to 25'	150#	3/4"	3/8"	1/2"
25' to 30'	200#	7/8"	7/16"	5/8"
30' to 35'	250#	1"	1/2"	3/4"
Over 35'	300#	1"	1/2"	7/8"

b. Minimum scope length is set by the Harbor Management Commission for mooring grid purposes or six times the depth at the anchor at mean low water at the discretion of the harbor master.

c. These minimum requirements do not mean that the required tackle is adequate for any boat. They are intended to provide a minimum standard reasonable for most conditions, but not to guarantee safety under extreme conditions. The City assumes no responsibility for these requirements.

d. Newer type anchoring systems may be used in lieu of a mushroom anchor with the approval of the Harbor Master.

6-3.8.20 All mooring tackle shall be inspected to ascertain that adverse impacts to the benthic environment and organisms, including eelgrass beds, are minimized. The inspection of moorings in Pine Island Bay will be at a time interval determined by the Harbor Master. Method of inspection of mooring will be as deemed appropriate by the Harbor Master. Possible solutions to problems found during inspection include removal of the offending mooring, alternate tackle (such as a screw mooring), or relocation of the mooring to avoid the adverse impact to eelgrass. Primary responsibility for compliance with such orders and directions shall rest with the owner of the improperly anchored or moored vessel or his authorized agent

6-3.8.21 Moorings may not be located in a Federal Navigational Channel or other channels fairways under the control of the Harbor Master. Private moorings that are located in Federal Navigation Projects, associated with any boating facility or that may interfere with navigation, need to be approved by the Corps of Engineers.

6-3.8.22 The Harbor Master may order any unpermitted mooring, or mooring interfering with a fairway, channel, or other permitted mooring, removed at the owner's expense. If ownership of said removed mooring is undetermined ninety (90) days after removal, the Harbor Master may sell said mooring tackle with the receipt being deposited to the Harbor Management Fund after expenses are paid.

6-3.8.23 Correcting an Unsafe Anchorage or Mooring: If any vessel shall be found in the judgment of the Harbor master to be anchored or moored within any harbor or maritime facility in an unsafe or dangerous manner, or in such a way as to create a hazard to other vessels or to persons or property or cause water pollution, the Harbor Master shall order and direct necessary measures to eliminate such unsafe or dangerous condition. Primary responsibility for compliance with such orders and directions shall rest with the owner of the improperly anchored or moored vessel or his authorized agent; in the absence of such owner or agent, said responsibility shall rest with the authorized operator of the vessel or the facility at which the vessel is anchored or moored. In an emergency situation and in the absence of any such responsible person, the Harbor master shall forthwith board such vessel and cause the improper situation to be corrected, and the owner of the vessel shall be liable for any costs incurred by the Harbor Master or his agents in effecting such correction.

6-3.8.24 Unseaworthy Vessels: No person shall secure or permit to be anchored or moored in a harbor, waterway, or maritime facility a vessel of any kind whatsoever which the harbor master considers unseaworthy or in a badly deteriorated condition, or which is likely to sink or to damage docks, wharfs, floats, and/or other vessels, or cause water pollution, or which may become a menace to navigation. Such vessels shall be removed from the water and/or be otherwise disposed of as directed by the Harbor Master per Connecticut General Statutes Section 15-11a.

6-3.8.25 There are to be no general public moorings placed in Baker Cove, Calf Pasture Cove, or Birch Plain Creek for reasons of navigation and potential environmental damage. However, to allow shorefront property owners to retain use of their property for boats that may not be

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appropriately stationed at a pier or dock, shorefront property owners along Baker Cove may be allowed 1 mooring to be placed directly in front of their property, if this is the most appropriate means of riparian or littoral access. This mooring may only be used if the swing of the moored boat does not interfere with riparian access.

6-4 TRANSIENT BOATS

Two Shennecossett Yacht Club moorings are designated for transient use.

Transients may anchor or use transient moorings as they become available. The Harbor Master will monitor demand for transient moorings and will recommend to the Harbor Management Commission the number of required moorings and the areas they should be placed on an annual basis. All anchorages and moorings for transients are on a first come, first serve basis and may be assessed a usage fee for use of a mooring, if so established by the Harbor Management Commission.

6-4.1 Transient Moorings May be used for three consecutive days or extended with approval of the Harbor Master.

6-4.2 Both Shennecossett Yacht Club and Pine Island Marina, through their respective dock masters, provide mooring facilities for transient boaters by utilizing moorings that are not occupied by the assigned vessel for short periods.

6-5 DEFINITIONS

6-5.1 Anchoring: A boat is anchored when it "rides" or "lays" to a single anchor rode, although it is conceivable to have 2 anchors in tandem on that rode.

6-5.2 Channel: refers to any water areas officially marked and maintained to permit unobstructed movement of vessels.

6-5.3 Coastal Boundary refers to the boundary as defined in Connecticut General Statutes (CGS Section 22a-94 (current January 1, 2003)). Within the coastal area, there shall be a coastal boundary which shall be a continuous line delineated on the landward side by the interior contour elevation of the one hundred year frequency coastal flood zone, as defined and determined by the National Flood Insurance Act, as amended (USC 42 Section 4101, P. L. 93-234), or a one thousand foot linear setback measured from the inland boundary of tidal wetlands mapped under section 22a.20, whichever is farthest inland; and shall be delineated on the seaward side by the seaward extent of the jurisdiction of the state.

6-5.4 Commercial Mooring: refers to those moorings that are rented or leased.

6-5.5 Dockmaster refers to the official designated by the owner[s] or decision-making body of a public, private or commercial enterprise that offers dock space or moorings.

6-5.6 Fairway The parts of a waterway kept open and free of all moorings and reserved for the unrestricted movement of vessels. This is a locally designated fairway and not federally designated nor protected by government policies,

6-5.7 Federal Emergency Management Agency National Flood Insurance Program.

A1 – A30 Zones Areas of 100-year flood; base flood elevations and flood hazard factors determined.

B Zones	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood.
V1 – V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

6-5.8 General Public Mooring: refers to those moorings reserved for the general public.

6-5.9 HMA. The Harbor Management Act: The legislation contained with the state of Connecticut General Statutes, Sections 22a-11k through 22a-113t and as may be amended.

6-5.10 HMC. The Harbor Management Commission: The local municipal commission established under and carrying out the responsibilities authorized by the Connecticut Harbor Management Act.

6-5.11 Harbor Master: a person appointed by the Governor pursuant to Connecticut General Statutes Section 15-1, who is charged with the general care and supervision of their waters of jurisdiction under the supervision of the Department of Transportation. Among their main responsibilities, is keeping channels and established fairways clear of obstructing vessels. The Harbor Masters authority to issue mooring permits is derived from Connecticut General Statutes Section 15-8. Harbor Masters are ex officio members of any Harbor Management Commission, and are required to exercise their authority consistent with an approved Harbor Management Plan, adopted pursuant to Connecticut General Statutes Section 22a- 113m, where one exists.

6-5.12 Moor: To secure a vessel to a mooring

6-5.13 Mooring: Permanent moorings are variations on the anchoring theme wherein the boat is secured in place by means of a ground tackle which is normally not part of the boat's on-board equipment. The single point mooring concept is similar to anchoring in that the boat is allowed to swing with wind and current, but it has the convenience of the operator' or crew not having to handle heavy ground tackle on board the boat.

6-5.14 Mooring Tackle: refers to the hardware and cordage used to secure a vessel at a mooring.

6-5.15 Open-to-All on Equal Terms: Federal navigation projects must be managed in the general public interest and must be accessible and available to all on equal terms. Any number of approaches may be used to assure that all citizens desiring mooring or other access to the projects are treated impartially; it is not the Federal Government's intention to prescribe specific procedures.

A management system shall be considered acceptable provided that it:

- Makes no arbitrary distinction or requirement of any kind in allocating use of the project and ancillary facilities and services to the public except as may be consistent with the purpose for which the project was constructed.
- Does not impose arbitrary fees or arbitrary variations in fees among users. The cost of providing necessary management and ancillary facilities and services may be offset through equitable user fees based on the actual costs incurred.

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- Information pertinent to harbor management - including but not limited to rules and regulations, lists of mooring holders, waiting lists, and fee schedules - shall be readily available to the public at all times.

6-5.16 Small Craft: a vessel 65 feet or less in length.

6-5.17 Special Anchorage Area: areas where vessels under 20 meters in length are not required to exhibit anchor lights, day shapes, or sound fog signals as required by the Inland Rules.

6-5.18 Speed The rate which a vessel transits the water.

6-5.19 Transient Anchorage: refers to any area reserved and designated on the Water Use Plan for the exclusive short term use of commercial and recreational vessels.

6-5.20 Vessel: refers to every description of watercraft, other than a seaplane on water, used or capable of being used as a means of transportation on water.

6-5.21 Wake: Waves caused by the passage of a vessel through the water. These waves are a function of water displaced by the vessel and are generally unrelated to excessive speed.

6-5.22 Water-dependent uses: means those uses and facilities which require direct access to, or location in, marine or tidal waters and which therefore cannot be located inland, including but not limited to; Marinas, recreational and commercial fishing and boating facilities, finfish and shellfish processing plants, waterfront dock and port facilities, shipyards and boat building facilities, water-based recreational uses, navigational aides, basins and channels, industrial uses dependent upon water-borne transportation or requiring large volumes of cooling or process water which cannot reasonably be located or operated at an inland site and uses which provide general public access to marine or tidal waters.

APPENDIX A

PERMIT AND REGULATORY AUTHORITIES

A-1 GENERAL

This Appendix lists the local, federal and state regulatory agencies with which the Harbor Management Commission must coordinate their activities in the administration of the Harbor Management Plan and Harbor Management Ordinance.

In addition to the ordinary coordination activities which might be assumed to take place with respect to other local boards, commissions and agencies, Section 22a-113p of the Connecticut General Statutes enables the Harbor Management Commission to establish a procedure to review waterfront development proposals which are submitted to other municipal agencies. The statutes, among other provisions, requires such agencies to send a copy of any proposals to the Commission for review, and requires that the agency consider the Harbor Management Commission's recommendations. Thus, the list of local regulatory agencies is a first step in establishing this review process.

A-2 LOCAL REGULATORY AGENCIES:

BEACH AND PARK COMMITTEE:

This Committee manages the Eastern Point Beach as well as other City recreation areas. It will thus interface directly with the Harbor Management Commission on the Plan for the beach.

CITY OF GROTON UTILITIES COMMISSION:

This body manages water supply, sewage disposal and electric power systems.

The Commission is overseen by the Mayor and Council. In the case of the sewage disposal system, the Mayor and Council act as the Water Pollution Control Authority. The impact of the Utilities Commission on the Harbor Management Plan is indirect, but could be felt.

CONSERVATION AND INLAND WETLANDS COMMISSION:

The Conservation Commission serves as an advisory body to the Mayor and Council, Planning and Zoning Commission, and other City agencies as appropriated on conservation matters. The Commission has a second function which is to regulate development in inland wetlands within the City, which it does through the issuance of permits. The Commission will interface with the Harbor Management Plan in areas of the harbor that require conservation input.

Plans and Regulations: City of Groton Inland Wetlands Regulations

Town of Groton Shellfish Commission:

This agency has regulatory responsibility for shell fishing affairs and permitting.

Eastern Point Historic District Commission:

This agency reviews proposed changes to buildings within its jurisdiction in Eastern Point. The purpose of the commission is to retain, promote and enhance the distinct characteristics of the Eastern Point neighborhood.

Harbor Management Commission:

The Commission is preparing a Harbor Management Plan for the City and, when that Plan is adopted, will have the responsibility of administering and updating it when required. Actual implementation of the Plan will require coordinated action by several persons and agencies, including the Mayor and Council, Police Department and the Harbor Master.

Plans and Regulations Harbor Management Plan

Harbor Master:

The Connecticut General Statutes (CGS Section 15-1) mandate that harbor masters have "general care and supervision of the harbors and navigable waterways over which they have jurisdiction.... and shall exercise their duties in a manner consistent with any Harbor Management Plan..." This means that the harbor master will be the enforcement officer for the Harbor Management Commission in administration of the Plan.

Mayor and Council:

The Mayor is the Chief Executive of the City and acts as moderator of the City Council meetings. The Mayor is not a voting member of the Council, but does vote to break a tie. The six member council is the legislative authority for the City. The Council also serves as the City's Water Pollution Control Authority.

The Mayor and Council, as the executive and legislative bodies of the municipal government, will have an impact on the Harbor Management Plan through the adoption and administration of ordinances regulating activities and concerns within the harbor.

The Water Pollution Control Authority oversees the operation of and improvements to the sewage treatment plant. This plant is located on the waterfront, and thus will have to be considered in the Harbor Management Plan.

Plans and Regulations: The City's Charter and Ordinances

Planning and Zoning Commission and Zoning Board of Appeals:

These agencies perform the planning and zoning functions for the City. The authority of the Planning and Zoning Commission extends to the waterfront. The Planning and Zoning Commission and the Zoning Board of Appeals perform Coastal Site Plan reviews for

properties within the coastal zone. Also, construction of structures in the floodable areas as shown on the Flood Insurance Rate Map of the City are subject to additional regulation by the Planning and Zoning Commission. Generally, the floodable areas are adjacent to waters which will be regulated by the Harbor Management Plan. Many forms of development, marinas for example, will come under the cognizance of the Harbor Management Commission as well as under that of the Planning and Zoning Commission or Zoning Board of Appeals.

Plans and Regulations: Plan of Development, Municipal Coastal Program, Thames Street Study, Thames Street Beautification Program Report, Zoning Regulations, and Subdivision Regulations

Police Department:

In addition to its shoreside law enforcement duties, the Police Department currently patrols the waters of the City and has the responsibility for enforcing City Ordinances in waterfront areas. Thus, they will play a role in the administration of any Ordinances which are adopted pursuant to the Plan.

A-3 STATE AND FEDERAL REGULATORY AGENCIES:

Listed below are the agencies which regulate, or in some way oversee, harbor activities. These are organized by the types of regulations for which each agency is responsible. This list was taken from the Model Municipal Harbor Management Plan published by the Office of Long Island Sound Programs of the Connecticut Department of Environmental Protection.

An asterisk (*) indicates that a permit or approval may be required. Individuals are advised to contact the agency for further clarification.

CGS means Connecticut General Statutes

USC means United States Code

CFR means Code of Federal Regulations

Aids to Navigation/Buoys/Markers:

Federal: *Section 10 of Rivers and Harbors Act of 1899, structures in navigable waters of the U.S., (Corps) *14 USC 83 and 33 CFR et seq., aid registration, (Coast Guard)

State: Section 15-121 CGS, recreational boating (DEP-BS&WS) Section 15-25 CGS, injuring, interfering with buoys, etc. (ConnDOT)

Anchorage:

Federal: *Section 10 of Rivers and Harbors Act of 1899, federal maintenance in navigable waters of the U.S., (Corps) *33 CFR 110.1, Subpart A, special anchorages (Coast Guard)

State: *Section 15-8 CGS, use of, (Local harbor masters)

Aquaculture see Shellfisheries

Beach Erosion:

Federal: Section 103 of Rivers and Harbors Act of 1962, small beach erosion control projects, (Corps)

State: Section 25-69 through 83 CGS, State assistance for projects (DEP-WRU)
Sections 22a – 359 through 22a – 363f CGS, violation in structures, dredging or filling, (DEP-OLISP)
Sections 22a-90 through 22a-112 CGS, all state plans and Coastal Management Act (DEP-OLISP)

Local: Section 25-84 through 98 CGS, municipal Flood and Erosion Control Board, (local commission)

Boating:

Federal: 46 USC 25 and 33 CFR Parts 1-199, safety (Coast Guard)

State: Section 15-121 CGS, administration, (DEP-BS&WS)
*Section 15-127 through 15-140d CGS, safety (DEP- BS&WS and LE)
Section 15-16 CGS, Speed, (DEP-BS&WS and LE)
*Section 15-136 CGS, local ordinances proposed by selectpersons, subject to DEP approval, (DEP-BS&WS)
*Sections 15-141 through 157 CGS, registration of boats, (DMV)
Section 15-121 CGS, Safety and Security Zones

Bridges see Structures

Buoys see Aids to Navigation, etc.

Channels:

Federal: Section 107 of River and Harbor Flood Control Act of 1960, small public navigation projects, (Corps)

*Section 10 of Rivers and Harbors Act of 1899, construction and maintenance in navigable waters of the U.S. (Corps)

State: Sections 22a-340 and 386 CGS, layout, (DEP-WRU)

*Section 22a-361 CGS, construction and maintenance of non-federal channels, (DEP-OLISP)

Discharges:

Federal: Many authorities have been delegated to state under federal law

State: *Sections 22a-416 through 22a-471, regulation of water pollution, (DEP-WRU) Sections 22a-448 through 22a-452, oil spills, (DEP-WRU)

*Section 401 of the Clean Water Act, Water Quality Certificate, (DEP-OLISP)

Section 22a-430, point-source discharge, see also NPDES, (DEP-WRU)

Sections 15-170 through 15-176, discharge of sewage from vessels (DEP-WRU)

Section 22a-430b CGS General Permit for the discharge of stormwater associated with industrial activities (DEP-WRU)

Docks see Structures

Dredging/Dredged Material Disposal:

Federal: *Section 103 of Marine Protection, Research and Sanctuaries Act of 1972, ocean dumping of dredged material, (Corps)

*Section 404 of Clean Water Act, in all waters of the U.S. (Corps)

*Section 10 of Rivers and Harbors Act of 1899, in navigable waters of the U.S. (Corps)

State: *Section 22a-359 through 363f CGS, for navigation, (DEP-OLISP)

*Section 401 of Clean Water Act, Water Quality Certificate, see also Section 22a-430 CGS, (DEP-OLISP)

*Sections 22a-28 through 35 CGS, in tidal wetlands, (DEP-OLISP)

*Sections 22a-36 through 45 CGS, in inland wetlands and watercourses, (DEP-WRU)

Enforcement:

Federal: Corps and Coast Guard enforce the federal laws, usually enforcement authorities are not delegated to state or local agents.

State: Violations are pursued under the same statutory authority that regulates the activity. For example, some of the state statutory authorities are listed below.

Section 15-121 through 157 CGS, state boating statutes, (Section 15-154 CGS) can be enforced by DEP or POST trained and certified harbor master, POST trained and certified deputy harbor master, conservation officer, special conservation officer,

state police officer, municipal police officer, special police officer (under Section 29-18 through 19 CGS), volunteer police auxiliary force (under Section 29-22 CGS), and town marine officers (appointed under Section 15-15a CGS), (DEP-LE and DEP-BS&WS))

Sections 22a-416 through 471 CGS, enforcement authority for water pollution control, (DEP-WCU) Sections 22a-36 through 45, (DEP-IWRMD), Sections 22a-28 through 35, Sections 22a-359 through 361, Sections 22a- 383 through 390 CGS, violation in structures, dredging or filling, (DEP-OLISP) Sections 26-205 through 206 CGS, violation of shellfish laws, (Aquaculture)

Local: Section 26-6a CGS, constables for fish and game protection (local appointment)
Section 15-8 CGS, location of vessels in harbor, (local harbor master)

Filling:

Federal: *Section 10 of Rivers and Harbors Act of 1899, in navigable waters of the U.S., (Corps)
*Section 404 of Clean Water Act, in all waters of the U.S. (includes wetlands), (Corps)

State: *Section 22a-359 through 363f CGS, in coastal, tidal or navigable waters (DEP-OLISP)
*Section 22a-36 through 45 of CGS, in inland wetlands and watercourses (DEP-WRMD)
(local wetlands agency)
Section 22a-28 through 35 of CGS, in tidal wetlands (DEP-OLISP)

Fish and Game Refuges:

State: Sections 26-99 through 107 CGS, establishment of boundaries, restrictions on hunting, fishing, etc. (DEP- WILDLIFE) Section 26-17a CGS, acquisition and preservation of tidal wetlands (DEP-PROP)

Fisheries:

State: *Sections 26-142 through 186a CGS, commercial, fishing, recreational fishing, lobstering,
(DEP-LICENSE) (DEP- FISH)
Section 26-16 CGS, public hunting and fishing lands and waters, (DEP-WILDLIFE))

Floats see Structures

Floodplain Encroachment Lines:

Local: Section 7-147 CGS, setbacks landward from mean high water line, (local ordinance)

Harbor Improvements:

- Federal: Water Resource Development Act of 1974, federal authorization of improvements (Corps)
Section 7 of Rivers and Harbors Act of 1915, federal authorization of improvements (Corps)
Section 107 of River and Harbor Flood Control Act of 1960, redevelopment and construction of small navigation projects (Corps)
- State: Sections 13b-56 and 57 CGS, agencies, plans grants-in-aid, (local agency, with DEP/ConnDOT approval)
Sections 22a-359 through 22a-363f CGS, violation in structures, dredging or filling, (DEP-OLISP)

Harbor Lines:

- Federal: Section 11 of the Rivers and Harbors Act approved March 3, 1899, (33 U.S.C. 404), authorizes the Secretary of the Army to establish harbor lines channelward of which no piers, wharves, bulkheads, or other works may be extended or deposits made without approval of the Secretary of the Army. Effective May 27, 1970, permits for work shoreward of those lines must be obtained in accordance with Section 10 and, if applicable, Section 404 of the Clean Water Act.
- State: *Sections 22a-360 CGS, designation, (DEP-OLISP)

Harbor Management:

- State: Sections 22a-113k through 113t CGS, commissions, plans, mooring fees, (DEP-OLISP) (ConnDOT)

Harbor Masters:

- State: Sections 15-1 through 10 and 13b-51 CGS, responsibilities, (ConnDOT)
Section 15-7 CGS, jurisdiction, powers, duties in Bridgeport only, (harbor master)
Section 3-125 CGS, Attorney General appearance on behalf of harbor master, (ConnDOT)

Houseboats:

- Federal: See Structures/Bridges/Docks/Floats/Piers
- State: Sections 19a-227 through 230 CGS, limitations on use, (local Director of Health)
Sections 22a-359 through 22a-363f CGS, violation in structures, dredging or filling, (DEP-OLISP)

Land Development/Use on Waterfront:

- Federal: *Section 307 of Federal Coastal Zone Management Act, federal activities, federal financial assistance and federal permits must be consistent with Connecticut Coastal Management Program, (DEP-OLISP)
44 CFR 59 et seq., National Flood Insurance Program, (local ordinance) (DEP-IWRMD)

- State: *Section 22a-92 through 112 CGS, all state plans and Coastal Management Act, (DEP-OLISP)
*Section 25-68b through 68h CGS, state-funded or state-regulated actions in floodplains, (DEP-IWRMD)
- Local: Sections 22a-92 through 112 CGS, activities within town's coastal boundary must be consistent with Coastal Management Act (local land use agencies)
Variances to local flood regulations and standards must be approved by local zoning boards of appeal and referred to DEP-WRU for approval under Section 743 of the State Building Code
Section 22a-113p CGS, recommendation by Harbor Management Commission (local Harbor Management Commission)

Lobstering see Fisheries:

Marine Sanitation Devices:

- Federal: Section 312 of Clean Water Act, (Coast Guard)
- State: Sections 15-121 (b)(8), 15-144(f) CGS, (DEP-LE)
Sections 15-170 through 15-176, discharge of sewage from vessels (DEP-WCU)

Markers see Aids to Navigation

Moorings:

- Federal: *Section 10 of Rivers and Harbors Act of 1899, individual or commercial moorings in navigable waters of the U.S. (Corps)
- State: *Section 15-8 CGS, individual and/or commercial moorings, separate applications required, (local harbor master)
Regulations of Connecticut State Agencies (RCSA) Sec. 15-121-A3(a).
- Local: Section 113s CGS, local mooring fee (local harbor master) (Harbor Management Commission)

Navigation:

- Federal: 33 USC 164.01 through 164.61, safety, (Coast Guard) Various River and Harbor Acts and Congressional Authorizations, dredging of authorized facilities, (Corps)
- State: Sections 15-1, 15-7b, 15-8 CGS, Harbor Masters (ConnDOT)

"No Discharge" Zones see Marine Sanitation Devices

Obstructions to Navigation:

Federal: Sections 15, 19 and 20 of the Rivers and Harbors Act of March 3, 1899, as amended by Section 939, Public Law 99- 662 (Water Resources Development Act of 1986)

State: *Section 15-11a CGS, disposal of old vessels and floating structures, (ConnDOT)
Section 15-140d CGS, removal of hazardous structures in tidal waters, (ConnDOT)

Local: Section 15-12 CGS, removal of obstructions from water- front land, (local selectmen)

Piers see Structures

Pollution see Discharges

Port Authorities:

State: Sections 7-329a through 7-329f CGS, formation of port authorities

Public Facilities:

Local: Section 7-148 CGS, description of municipal powers to develop public facilities

Races, Regattas, Marine Parades:

Federal: *33 CFR 100, permits (Coast Guard)

Restricted Boating Areas:

State: *Section 15-121 CGS, designation of and regulation (DEP- BS&WS)

Shellfisheries:

State: *Sections 26-192 through 237 CGS, state shellfisheries, (Aquaculture)
Section 19a-95 through 101 CGS, shellfishing closures, (Aquaculture)
*Section 22a-361 CGS, erection of structures or placement of fill on oyster grounds (DEP-OLISP)
Section 22-416 through 418 CGS, State Aquaculture Commission (Aquaculture)

Local: *Section 26-238 through 294 CGS, local shellfisheries, (local shellfish commission)

Stream Channel Encroachment Lines:

State: *Section 22a-342 through 348 CGS, encroachments in floodways, (DEP-IWRMD)

Structures/Bridges/Docks/Floats/Piers:

Federal: *Section 10 of Rivers and Harbors Act of 1899, in navigable waters of the U.S. (Corps)
*Section 404 of Clean Water Act, in all waters of the U.S. (includes wetlands), (Corps)
*Section 9 of Rivers and Harbors Act of 1899, bridges, (Coast Guard)
Houseboats - 33 CFR 322.2 (b) lists structures and includes permanent mooring structures.

Guidelines for the Placement of Fixed and Floating Structures in Navigable Waters of the United States Regulated by the New England Division U.S. Army Corps of Engineers

State: *Section 22a-359 through 363f CGS, permit (DEP-OLISP) Section 22a-362 CGS, nuisance/violation, (DEP-OLISP)

*Section 22a-36 through 45 CGS, in inland wetlands, (DEP-WRU) (local wetlands agency)
Section 22a-28 through 35 CGS, in tidal wetlands (DEP- OLISP)

Local: Planning and Zoning Site Plan and Coastal Site Plan Review

Swimming Areas:

Federal: 14 USC 83 and 33 CFR 60 et seq., floats, (Coast Guard)
*Section 10 Rivers and Harbors Act, floats, (Corps)

State: *Section 15-121 CGS, marked swimming areas (DEP-BS&WS)

Vessels (removal of):

Federal: Sections 19 and 20 of Rivers and Harbors Act of 1899,
removal of wrecks from navigable waters of the U.S. (Corps)

State: Section 15-11a CGS, order for removal of sunken vessels as violation, (ConnDOT/DEP-WRU)
Section 22a-359 CGS, sunken vessels as encroachments (DEP-OLISP)

Local: Section 15-9 through 11 CGS, moving obstructing vessels, (local harbor masters)

Waterfront Development see Land Development/Use, etc.

Wetlands Activities:

- Federal: *Section 404 of Clean Water Act, discharges of dredged or fill material in waters of the U.S. (Corps)
- State: *Section 22a-28 through 35 CGS, activities in tidal wetlands, determined by vegetation, (DEP- OLISP)
 *Section 22a-36 through 45 CGS, activities in inland wetlands, determined by soil type (DEP-WRU)
 Section 26-17a CGS, acquisition and preservation of tidal wetlands, (DEP-PROP)
- Local: *Section 22a-36 through 45 CGS, activities in inland wetlands, determined by soil type, (local inland wetlands agency)

FEDERAL/STATE AGENCIES WITH JURISDICTION OVER HARBOR ACTIVITIES

Listed below are the agencies which regulate or in some way oversee harbor activities. The agencies are listed alphabetically according to the parenthetical abbreviations found with the statutory references on the previous pages. Contacts and addresses for local commissions, agencies and harbor masters are not listed here but can be obtained by calling the City Clerk.

1. (Aquaculture)
 Connecticut Department of Agriculture
 Aquaculture Division
 190 Rogers Avenue
 P.O. Box 97
 Milford, Connecticut 06460
 203-874-0696

2. (Coast Guard)
 U.S. Department of Transportation
 Commander
 Third Coast Guard District
 Governor's Island
 New York, NY 10004
 212-668-7994 bridge permit
 212-668-7193 aids to navigation

 Commander
 United States Coast Guard
 Group/Marine Safety Office
 Long Island Sound
 120 Woodward Avenue
 New Haven, CT 06512

Bridge Permits
First Coast Guard District
Battery Park Bldg.
One South Street
New York, NY 1004-5073
(212) 668-7195

Mr. John Mauro
Chief, Waterways management
First Coast Guard District
408 Atlantic Avenue
Boston, MA 02110-3350

Coast Guard Station New London
C/O Fort Trumbull
New London, CT. 06320
(860)442-4471

3. (ConnDOT)
Connecticut Department of Transportation
Bureau of Aviation and Ports
State Pier
New London, Connecticut 06320
860-443-3856
4. (Corps)
U.S. Army Corps of Engineers
Attn: Regulatory Branch
696 Virginia Road
Concord, MA 01742-2751
1-800-343-4789
5. (DEP-BD)
Connecticut Department of Environmental Protection
Bureau of Outdoor Recreation
Boating Division
333 Ferry Road
P.O. Box 280
Old Lyme, Connecticut 06371-0280
860-434-8638
6. (DEP MFD)
Connecticut Department of Environmental Protection
Bureau of Natural Resources
Marine Fisheries Division
Marine District
333 Ferry Road
P.O. Box 719
Old Lyme, CT 06371
860-434-6043

7. (DEP-IWRMD)
Connecticut Department of Environmental Protection
Bureau of Water Protection and Land Use
Inland Water Resources
79 Elm Street
Hartford, Connecticut 06106-5127
860-424-3101
8. (DEP-BOR)
Connecticut Department of Environmental Protection
Bureau of Natural Resources
Bureau of Outdoor Recreation
Marine Patrol
Old Lyme Headquarters
333 Ferry Road
P.O. Box 280
Old Lyme, Connecticut 06371-0280
860-434-9840
9. (DEP-LICENSE)
Connecticut Department of Environmental Protection
Office of Financial Management and Information Technology
79 Elm Street
Hartford, Connecticut 06106-5127
860-424-3101
10. (DEP-OLISP)
Connecticut Department of Environmental Protection
Bureau of Water Protection and Land Use
Office of Long Island Sound Programs
79 Elm Street
Hartford, Connecticut 06106-5127
860-424-3034
11. (DEP-PROP)
Connecticut Department of Environmental Protection
Land Acquisition/Property Management
79 Elm Street
Hartford, Connecticut 06106-5127
860-424-3016
12. (DEP-WCU)
Connecticut Department of Environmental Protection
Bureau of Materials Management and Compliance Assurance
Water Enforcement and Engineering
79 Elm Street
Hartford, Connecticut 06106-5127
860-424-3018

13. (DEP-WILDLIFE)
Connecticut Department of Environmental Protection
Bureau of Natural Resources
Wildlife Division
79 Elm Street
Hartford, Connecticut 06106-5127
860-424-3011
14. (DEP-WRU)
Connecticut Department of Environmental Protection
Bureau of Water Protection and Land Use
Water Planning and Standards
79 Elm Street
Hartford, Connecticut 06106-5127
860-566-7160
15. (DMV)
Connecticut Department of Motor Vehicles
60 State Street
Wethersfield, Connecticut 06109
860-566-3781

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APPENDIX B

CITY COUNCIL RESOLUTION OF OCTOBER 1, 1984

**RESOLUTION OF FINAL APPROVAL OF RENAMING THE
WATERFRONT COMMISSION FOR THE CITY OF GROTON THE
CITY OF GROTON HARBOR MANAGEMENT COMMISSION**

WHEREAS, P.A. No. 84-247 authorized the establishment of a Harbor Management Commission in the City of Groton and specifically authorized the designation by ordinance of an existing commission to serve as same, and

WHEREAS, the City of Groton, pursuant to Ordinance 52, has established a Waterfront Commission for the City of Groton, and

WHEREAS, the City of Groton is desirous of establishing a Harbor Management Commission to implement plans for the most desirable use of the harbor, including recreational, commercial and industrial uses,

NOW THEREFORE BE IT RESOLVED THAT:

1. The Waterfront Commission of the City of Groton is hereby designated and renamed the City of Groton Harbor Management Commission and shall, in addition to all powers which it currently possesses, hereinafter assume all duties and powers enumerated in "An Act Concerning Harbor Management," Public Act No. 84-247.
2. The Harbor Master of the City of Groton is hereby made a non- voting, ex-officio member of said Commission.
3. The Commission shall have jurisdiction over all property located in the City of Groton between the mean high water mark and the following boundary line:

Beginning at a monument set at the point where the stream leading into Baker Cove, sometimes known as Birch Plain Creek, comes up to the road line of Old Poquonnock Road; thence southerly with the midline of said stream and of Baker Cove to a point due north of a monument on the eastern extremity of Pine Island; thence due south through the Town of Groton; thence west by said south boundary line of the Town of Groton; thence west by said south boundary line to the division line to a point due west from a point on the bank of the Thames River, which point is due west from a monument located at the junction of the north line of Grove Avenue with the east line of Fairview Avenue; thence due east to said point on the bank of the Thames River.

4. All other provisions of Ordinance 52, including the number of the commission, their method of selection, terms of office and procedures for filling any vacancy, are hereby affirmed and continued in full force and effect.

APPENDIX C

HARBOR MANAGEMENT PLAN—CITY OF GROTON

AN ORDINANCE ADOPTING A HARBOR MANAGEMENT PLAN FOR THE CITY OF GROTON

Be it ordained by the City Council of the City of Groton that the City adopt the plan entitled "City of Groton Harbor Management Plan, December 2006 ("Plan"), prepared by the City of Groton Harbor Management Commission, in accordance with sections 22a-113k, et seq. of the Connecticut General Statutes. Said Plan consists of 53 pages of text, and Appendices A-1 through A-14, B-1, C-1 through C-10 and D-1 through D-7.

Article I: GENERAL PROVISIONS

Sec. 1 **Title:** This Ordinance shall be known as the City of Groton Harbor Management Ordinance.

Sec. 2 **Applicability:**

2-1 GENERAL PROVISIONS

2-1.1 Applicability. The provisions of this chapter and any rules and regulations adopted pursuant thereto shall be applicable, and shall govern the use of harbor lands, waters, and facilities under the jurisdiction of the City of Groton Harbor Management Commission. The ordinance shall be subordinate to all existing federal and state statutes and regulations affecting the City of Groton, and is not intended to preempt any other valid laws. The Harbor Management Commission may from time to time amend the following rules and regulations in accordance with the procedures for harbor plan modifications in the Harbor Management Act.

2-1.2 Authorities. The City of Groton Harbor Master, or his or her designee, under the direction of the City of Groton Harbor Management Commission, shall have the authority to carry out harbor management directives and enforce all provisions of the Harbor Management Plan, including the ordinance. The Harbor Master, or his or her designee, may cite any alleged violators of the ordinance.

2-1.3 Violations. Any violation of the ordinance shall be a municipal infraction and a fine not to exceed \$100.00 shall be imposed for each conviction hereunder. Each day in violation shall be considered a separate, repeat offense and subject to separate citations. A fine not to exceed \$100.00 shall be imposed for each repeat offense.

2-1.4 Water Use Plan. The Water Use Plan, Chapter 5 of the Harbor Management Plan, is hereby incorporated in the ordinance by reference. It indicates the geographic locations where the various provisions of the ordinance apply.

2-1.5 Harbor Management Fund. A Harbor Management Fund will be created to receive and expend monies for harbor management purposes determined by the Harbor Management Commission. All revenues generated by (1) permits if a fee for mooring permits is approved, and (2) fines levied under the provisions of the Harbor Management Ordinance shall be deposited into this fund. Funds shall be disbursed for purposes directly associated with the management of the waters of the City of Groton and implementation of the City of Groton Harbor Management Plan. Monies from this fund may be allocated to the Harbor Master, or his or her designee, for the purpose of enforcing the provisions of the City of

Groton Harbor Management Plan and/or the Harbor Management Ordinance. The Harbor Management Fund shall be established, budgeted, and administered in a manner consistent with the procedure contained within the City of Groton Charter and Connecticut General Statutes Section 22a-113s.

2-1.6 **Amendment Procedure.** A modification to the plan may be proposed at any time and shall be approved in the same manner as the original plan. To begin this process, the proposed modification shall be presented to the Harbor Management Commission. The plan shall be reviewed annually by the commission and the commissioners of Environmental Protection and Transportation pursuant to Section 22a-113m of the Harbor Management Act.

2-2 **FEES**

2-2.1 The Harbor Management Commission shall set a schedule of fees for mooring permits, pursuant to Section 22a-113s of the Connecticut General Statutes.

2-2.2 The fee schedule shall be set by the Harbor Management Commission by November 10th. If the schedule is not set by November 10th, the previous year's fee schedule shall govern until the next season.

2-2.3 There shall be no fee for properly authorized swimming rafts or governmental moorings.

2-2.4 Fees shall be collected by the Harbor Master and deposited to the General Fund of the City of Groton.

2-2.5 Funding of the Harbor Management Commission shall be provided for in accordance with the budgeting process of the City of Groton.

2-3 **HARBOR REGULATIONS**

These regulations are designed to regulate activities in the waters of the City of Groton. The Harbor Management Commission may from time to time amend the following rules and regulations; however, the Harbor Management Commission cannot amend state regulations.

2-3.1 **Wake Regulations** Vessels are to operate in accordance with state regulation Sec. 15-121-B15l. Pine Island Bay and Baker Cove Regulation.

Effective May 19, 1994

On the waters of Pine Island Bay and Baker Cove, both located in the City of Groton and the Noank section of the Town of Groton bounded on the west by a line extending from the southernmost point of Avery Point to the westernmost point of Pine Island and bounded on the east by a line extending from the southernmost point of the east bank of Baker Cove to the westernmost point of Bushy Point, the following restrictions shall apply from the fifteenth day of May through the fifteenth day of September:

- (a) All motorboats shall be operated at SLOW - NO - WAKE [with minimum wake, at a speed not to exceed six miles per hour];
- (b) No person shall water-ski and no person shall operate a vessel towing a water-skier.

2-3.1.1 Slow No Wake A vessel shall not produce more than a minimum wake and shall not attain speeds greater than 6 miles per hour over the ground unless a higher minimum speed is required to maintain steerageway when traveling with a strong current.

2-3.2 Speed Regulations Vessels are to operate in accordance with state regulations Sec. 15-121-B14. Restricted speed limit.

Effective November 5, 1991

(a) [Except as provided in Section 15-121-A15(a)(4), no] NO person shall operate a motorboat at a speed in excess of [six miles per hour] SLOW - NO - WAKE within one hundred feet of shore, or of a dock, pier, float, or anchored or moored vessel, unless such motorboat is approaching such float, dock or shore for the purpose of enabling a person engaged in waterskiing to take off or land.

(b) The commissioner may temporarily limit vessel speed to SLOW - NO - WAKE in a construction area. Uniform state waterway marking system controlled area regulatory markers may be placed to indicate the SLOW - NO - WAKE area.

(c) Violation of subsection (a) of this section shall be an infraction.

(d) This section shall not preempt town ordinances or regulations which are adopted in accordance with Section 15-136 of the Connecticut General Statutes and which have more stringent speed limits or distance from shore limits.

2-3.3 Waterskiing Regulations. Waterskiing is to be performed in accordance with state regulations.

2-3.4 Motor Regulations The use of motors may cause environmental damage or safety hazards in some areas; therefore, characteristics and use of motors are regulated. Pursuant to Connecticut General Statutes Section 15-136, ordinances pertaining to operation of vessels must be approved by DEP after local adoption.

2-3.4.1 Given the fragile nature of the habitat and the potential for wetland destruction, the use of an internal combustion engine to power any vessel is prohibited in Birch Plain Creek, north of the Providence and Worcester railroad bridge, with the exception of Law Enforcement Vessels. The use of battery powered electric motors is permitted.

2-3.5 Noise Abatement This prohibition includes, but is not limited to, operating a motor boat without an adequate muffler as provided under Connecticut General Statutes Section 15-129, loud offensive language or behavior, and playing of radios, musical instruments or other noise producing devices so loudly as to constitute a nuisance. No person shall leave a vessel without securing all halyards and other noise producing objects in such a manner as will effectively prevent the production of noise under all reasonably foreseeable conditions.

2-3.6 Discharge of Refuse The provisions of Connecticut General Statutes Section 22a-250, inclusive, shall be strictly enforced with respect to discharge of refuse.

2-3.7 Marine Sanitation Devices: The provisions of Connecticut General Statutes Sections 15-170 through 15-175, inclusive, shall be strictly enforced with respect to marine toilets.

2-3.8 **Mooring Allocation/Assignment.** Pine Island Bay Mooring Grid is shown on Page 40 of this Plan. Per U.S. Army Corps of Engineer's Permit #1990-00882 and Connecticut DEP Permit # 199500782-KH, those moorings inside the area shown in their permit are assigned to the Shennecossett Yacht Club for use by their members. Two moorings in the southern portion are to be designated "Transient Moorings". As per U.S. Army Corps of Engineer's Permit # 1982-00251 and Connecticut DEP Permit # 199600496-SG, those moorings inside the area shown in their permit are assigned to Pine Island Marina for its use by their customers. Individual assignment of these moorings will be controlled by Shennecossett Yacht Club and Pine Island Marina respectively. A single mooring permit is issued by the Harbor Master to Pine Island Marina with the total number of locations assigned to it. No mooring permit is issued by the Harbor Master for any moorings in the Shennecossett Yacht Club assigned areas. All other moorings will be individually assigned to the General Public.

2-3.8.1 The Eastern Point mooring area, as shown on the Water Use Plan, will be reserved for the general public and a separate waiting list will be established if required.

2-3.8.2 Moorings location, scope length, and minimum ground tackle shall comply with the minimum mooring tackle requirements in Section 2-3.8.19. Locations where moorings are permitted are shown on the Water Use plan maps.

2-3.8.3 No mooring is to be placed in the waters of the City of Groton without a permit from the City of Groton Harbor Master. Moorings will be assigned without regard to residency.

2-3.8.4 Any mooring buoys so permitted by the Harbor Master must be in compliance with the shape, color and layout as required under existing Regulations of Connecticut State Agencies (RSCA) Sec.15-121-A3(a).

2-3.8.5 Any mooring permit granted by the City of Groton Harbor Master shall expire on December 15th in the year of its issue.

2-3.8.6 Application to the Harbor Master must be made on a form provided by the Harbor Master annually.

2-3.8.7 Upon granting a mooring permit, the Harbor Master shall send the permit to the applicant at the address shown on the permit application.

2-3.8.8 Any time a mooring location is eliminated due to improvements, expansions, etc., the persons holding a General Public Permit on said mooring will immediately move to the top of the mooring waiting list. Those that are Commercial or Yacht Club will absorb the loss without replacement.

2-3.8.9 Fees shall be set by the Harbor Management Commission no later than November 10th for the following year.

2-3.8.10 Applications may be made to the Harbor Master after December 1st. Applications for mooring permits will only be accepted for Connecticut registered vessels or documented vessels with a Connecticut certification decal. Connecticut vessels legally exempt from registration may also be granted mooring permits. Subleasing or long term loaning of a mooring to other than the designated permittee is prohibited.

2-3.8.11 Any applicant denied a permit may, at his option, have his name placed on a waiting list which shall be kept by the City Clerk, acting as the agent for the Harbor Master. This list shall be available to the general public during normal working hours.

2-3.8.12 No name shall be placed on the waiting list unless an application has been received.

2-3.8.13 If a suitable mooring becomes available the Harbor Master will notify the applicant. The applicant will have 30 days to make payment for the mooring permit. Upon payment for the mooring permit the Harbor Master will issue the permit. If the applicant fails to pay for the mooring permit no permit will be issued and the applicant will lose his place on the waiting list and go to the bottom of the list.

2-3.8.14 Beginning January 10th the Harbor Master shall fill available General Public mooring locations in the following order of priority.

- a. Applications from shorefront property owners whose land abuts the waterway in which the mooring is to be placed. This priority classification is usable for only one mooring per property.
- b. Previous year permits shall be renewed upon application, unless unused for more than one season by the permittee.
- c. Applications from private individuals.
- d. Additional applications from clubs, associations, or marinas whose property abuts the waterway in which the mooring is placed. These permits shall be limited to one year and will not have the rights outlined in section 2-3.8.14 b.

2-3.8.15 Commercial moorings require a Corps of Engineers Permit under Section 10 of the Rivers and Harbors Act of 1899 and a Connecticut Department of Environmental Protection Permit. The Harbor Master will use his judgment in cases where he considers that mooring locations are a threat to public safety. Private moorings that are located in Federal Navigation Projects, associated with any boating facility or that may interfere with navigation need to be approved by the Corps of Engineers.

2-3.8.16 In granting applications, the Harbor Master shall consider:

- a. The priority list
- b. Whether a suitable mooring location is available as to length of boat, type of boat, weight of boat, displacement and draft of boat.
- c. The Harbor Master will be afforded reasonable discretion in enforcing these allocations/assignments for unusual or special circumstances such as extremely deep draft, use by handicapped and abutting property owners.

2-3.8.17 Available moorings shall be offered to the senior applicant on the mooring list, subject to the constraints contained in these regulations. If the available mooring location is not suitable to accommodate the senior applicant's vessel or specific needs, it shall be offered to the next senior qualified applicant. The senior applicant shall retain his or her place on the waiting list in this case. The Harbor Master shall continue efforts to provide a suitable mooring location for the senior applicant. If the senior applicant refuses a mooring location which is suitable for his or her vessel in the opinion of the Harbor Master, the person shall be moved to the bottom of the waiting list.

2-3.8.18 Moorings in Pine Island Bay shall be set on the grid points of the plan contained in the Harbor Management Plan and made part of this ordinance by reference. The grid points are on 75 foot centers. The scope length must be 45 feet.

2-3.8.19 Minimum mooring tackle requirements.

a. Minimum size for anchors and chains are given in the following table of specifications:

Boat Length Overall	Minimum Mushroom Weight	Min Size of 1 st 15 ft. of Chain	Min Size of 2 nd 15 ft. of Chain	Min Size of 15 ft. Polyester Pendant Diameter
Under 15'	75#	1/2"	1/4"	3/8"
15' to 20'	100#	5/8"	5/16"	3/8"
20' to 25'	150#	3/4"	3/8"	1/2"
25' to 30'	200#	7/8"	7/16"	5/8"
30' to 35'	250#	1"	1/2"	3/4"
Over 35'	300#	1"	1/2"	7/8"

b. Minimum scope length is set by the Harbor Management Commission for mooring grid purposes or six times the depth at the anchor at mean low water at the discretion of the Harbor Master.

c. These minimum requirements do not mean that the required tackle is adequate for any boat. They are intended to provide a minimum standard reasonable for most conditions, but not to guarantee safety under extreme conditions. The City assumes no responsibility for these requirements.

d. Newer type anchoring systems may be used in lieu of a mushroom anchor with the approval of the Harbor Master.

2-3.8.20 All mooring tackle shall be inspected to ascertain that adverse impacts to the benthic environment and organisms, including eel grass beds, are minimized. The inspection of moorings in Pine Island Bay will be at a time interval determined by the Harbor Master. Method of inspection of mooring will be as deemed appropriate by the Harbor Master. Possible solutions to problems found during inspection include removal of the offending mooring, alternate tackle (such as a screw mooring), or relocation of the mooring to avoid the adverse impact to eelgrass. Primary responsibility for compliance with such orders and directions shall rest with the owner of the improperly anchored or moored vessel or his authorized agent.

2-3.8.21 Moorings may not be located in a Federal Navigational Channel or other channels fairways under the control of the Harbor Master. Private moorings that are located in Federal Navigation Projects, associated with any boating facility or that may interfere with navigation, need to be approved by the Corps of Engineers.

2-3.8.22 The Harbor Master may order any unpermitted mooring, or mooring interfering with a fairway, channel or other permitted mooring, removed at the owner's expense. If ownership of said removed mooring is undetermined ninety (90) days after removal, the Harbor Master may sell said mooring tackle with the receipt being deposited to the Harbor Management Fund after expenses are paid.

2-3.8.23 **Correcting an Unsafe Anchorage or Mooring.** If any vessel shall be found in the judgment of the Harbor Master to be anchored or moored within any harbor or maritime facility in an unsafe or dangerous manner, or in such a way as to create a hazard to other vessels or to persons or property or cause water pollution, the Harbor Master shall order and direct necessary measures to eliminate such unsafe or dangerous condition. Primary responsibility for compliance with such orders and directions shall rest with the owner of the improperly anchored or moored vessel or his authorized agent; in the absence of such owner or agent, said responsibility shall rest with the authorized operator of the vessel or the facility at which the vessel is anchored or moored. In an emergency situation and in the absence of any such responsible person, the Harbor Master shall forthwith board such vessel and cause the improper situation to be corrected, and the owner of the vessel shall be liable for any costs incurred by the Harbor Master or his agents in effecting such correction.

2-3.8.24 **Unseaworthy Vessels:** No person shall secure or permit to be anchored or moored in a harbor, waterway, or maritime facility a vessel of any kind whatsoever which the Harbor Master considers unseaworthy or in a badly deteriorated condition, or which is likely to sink or to damage docks, wharfs, floats, and/or other vessels, or cause water pollution, or which may become a menace to navigation. Such vessels shall be removed from the water and/or be otherwise disposed of as directed by the Harbor Master per Connecticut General Statutes Section 15-11a.

2-3.8.25 There are to be no general public moorings placed in Baker Cove, Calf Pasture Cove, or Birch Plain Creek for reasons of navigation and potential environmental damage. However, to allow shorefront property owners to retain use of their property for boats that may not be appropriately stationed at a pier or dock, shorefront property owners along Baker Cove may be allowed 1 mooring to be placed directly in front of their property, if this is the most appropriate means of riparian or littoral access. This mooring may only be used if the swing of the moored boat does not interfere with riparian access by adjacent shorefront property owners.

2-4 TRANSIENT BOATS

Two Shennecossett Yacht Club moorings are designated for transient use.

Transients may anchor or use transient moorings as they become available. The Harbor Master will monitor demand for transient moorings and will recommend to the Harbor Management

Commission the number of required moorings and the areas they should be placed on an annual basis. All anchorages and moorings for transients are on a first come, first serve basis and may be assessed a usage fee for use of a mooring, if so established by the Harbor Management Commission.

2-4.1 Transient Moorings May be used for three consecutive days or extended with approval of the Harbor Master.

2-4.2 Both Shennecossett Yacht Club and Pine Island Marina, through their respective dock masters, provide mooring facilities for transient boaters by utilizing moorings that are not occupied by the assigned vessel for short periods.

2-5 DEFINITIONS

2-5.1 Anchoring: A boat is anchored when it “rides” or “lays” to a single anchor rode, although it is conceivable to have 2 anchors in tandem on that rode.

2-5.2 Channel: refers to any water areas officially marked and maintained to permit unobstructed movement of vessels.

2-5.3 Coastal Boundary: Refers to the boundary as defined in Connecticut General Statutes (CGS Section 22a-94 (current January 1, 2003). Within the coastal area, there shall be a coastal boundary which shall be a continuous line delineated on the landward side by the interior contour elevation of the one hundred year frequency coastal flood zone, as defined and determined by the National Flood Insurance Act, as amended (USC 42 Section 4101, P.L. 93-234), or a one thousand foot linear setback measured from the mean high water mark in coastal waters, or a one thousand foot linear setback measured from the inland boundary of tidal wetlands mapped under section 22a-20, whichever is farthest inland; and shall be delineated on the seaward side by the seaward extent of the jurisdiction of the state.

2-5.4 Commercial Mooring: refers to those moorings that are rented or leased.

2-5.5 Dockmaster: refers to the official designated by the owner[s] or decision-making body of a public, private or commercial enterprise that offers dock space or moorings.

2-5.6 Fairway: The parts of a waterway kept open and free of all moorings and reserved for the unrestricted movement of vessels. This is a locally designated fairway and not federally designated nor protected by government policies.

2-5.7 Federal Emergency Management Agency National Flood Insurance Program:

A1 - A30 Zones Areas of 100-year flood; base flood elevations and flood hazard factors determined.

B Zones Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood.

VI - V30 Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

2-5.8 General Public Mooring: refers to those moorings reserved for the general public.

2-5.9 HMA. The Harbor Management Act: The legislation contained within the State of Connecticut General Statutes, Sections 22a-11k through 22a-113t and as may be

amended.

2-5.10 HMC. The Harbor Management Commission: The local municipal commission established under and carrying out the responsibilities authorized by the Connecticut Harbor Act.

2-5.11 Harbor Master: : a person appointed by the Governor pursuant to Connecticut General Statutes Section 15-1, who is charged with the general care and supervision of their waters of jurisdiction under the supervision of the Department of Transportation. Among their main responsibilities, is keeping channels and established fairways clear of obstructing vessels. The Harbor Masters authority to issue mooring permits is derived from Connecticut General Statutes Section 15-8. Harbor Masters are ex officio members of any Harbor Management Commission, and are required to exercise their authority consistent with an approved Harbor Management Plan, adopted pursuant to Connecticut General Statutes Section 22a-113m, where one exists.

2-5.12 Moor: To secure a vessel to a mooring.

2-5.13 Mooring: Permanent moorings are variations on the anchoring theme wherein the boat is secured in place by means of a ground tackle which is normally not part of the boat's on-board equipment. The single point mooring concept is similar to anchoring in that the boat is allowed to swing with wind and current, but it has the convenience of the operator' or crew not having to handle heavy ground tackle on board the boat.

2-5.14 Mooring Tackle: refers to the hardware and cordage used to secure a vessel at a mooring.

2-5.15 Open-to-All on Equal Terms: Federal navigation projects must be managed in the general public interest and must be accessible and available to all on equal terms. Any number of approaches may be used to assure that all citizens desiring mooring or other access to the projects are treated impartially; it is not the Federal Government's intention to prescribe specific procedures.

A management system shall be considered acceptable provided that it:

- Makes no arbitrary distinction or requirement of any kind in allocating use of the project and ancillary facilities and services to the public except as may be consistent with the purpose for which the project was constructed.
- Does not impose arbitrary fees or arbitrary variations in fees among users. The cost of providing necessary management and ancillary facilities and services may be offset through equitable user fees based on the actual costs incurred.
- Information pertinent to harbor management - including but not limited to rules and regulations, lists of mooring holders, waiting lists, and fee schedules - shall be readily available to the public at all times

2-5.16 Small Craft: a vessel 65 feet or less in length.

2-5.17 Special Anchorage Area: areas where vessels under 20 meters in length are not required to exhibit anchor lights, day shapes, or sound fog signals as required by the Inland Rules.

2-5.18 Speed: The rate which a vessel transits the water.

2-5.19 Transient Anchorage: refers to any area reserved and designated on the Water Use Plan

for the exclusive short term use of commercial and recreational vessels.

2-5.20 Vessel: refers to every description of watercraft, other than a seaplane on water, used or capable of being used as a means of transportation on water.

2-5.21 Wake: Waves caused by the passage of a vessel through the water. These waves are a function of water displaced by the vessel and are generally unrelated to excessive speed.

2-5.22 Water-dependent uses: means those uses and facilities which require direct access to, or location in, marine or tidal waters and which therefore cannot be located inland, including but not limited to; Marinas, recreational and commercial fishing and boating facilities, finfish and shellfish processing plants, waterfront dock and port facilities, shipyards and boat building facilities, water-based recreational uses, navigational aides, basins and channels, industrial uses dependent upon water-borne transportation or requiring large volumes of cooling or process water which cannot reasonably be located or operated at an inland site and uses which provide general public access to marine or tidal waters.

WHEREAS, the Mayor and Council initially approved this Ordinance on _____;
and

WHEREAS, this Ordinance was published in the Day, a newspaper having circulation in the City of Groton on _____ and _____; and

WHEREAS, the Public Hearing Notice was published in the Day, a newspaper having circulation in the City of Groton on _____ and the hearing was held _____ to receive comments concerning this Ordinance.

THEREFORE, BE IT RESOLVED that the Mayor and Council finally approve the adoption of the City of Groton Harbor Management Plan. This ordinance shall take effect upon passage.

DENNIS L. POPP, Mayor

DEBRA J. PATRICK, City Clerk

APPENDIX D

PLACEMENT OF FIXED AND FLOATING STRUCTURES

This Appendix is taken from the guidelines for placement of fixed and floating structures in navigable waters on the United States regulated by New England District, U.S. Army Corps of Engineers. These guidelines are available online at <http://www.nae.usace.army.mil/reg/reg2.htm>.

1. These guidelines have been developed due to the intense pressures of development in our coastal waters and on the adjacent land which have led to increasing conflict between users of these resources. They attempt to provide common sense guidance in allocating space for structures in navigable waters, recognizing reasonable use expectations of the general public and waterfront landowners. These guidelines do not constitute policy or regulation. They do, however, provide guidance for project design which typically will not generate adverse public comment or result in permit denial.
2. There is no statutory or regulatory prohibition against the Corps issuing regulatory permits authorizing structures or other work in Federal Navigation Project (FNP). However, the Corps permit regulations require district and division commanders to consider the extent to which that proposed work may be in conflict with the uses (and their respective navigational requirements) at issue when the FNP was authorized as well as with subsequent maintenance dredging activities. In general, the Corps discourages and has not permitted structures in FNPs, except as noted in paragraph 6 below. FNPs are typically channels, turning basins and anchorages.
3. In those cases where a project is proposed within two hundred feet (200') of a FNP the applicant shall determine and show the state plane coordinates for the extreme lateral limits of his project, the point on structures furthest beyond mean high water (MHW), and the point of closest approach of any structure to the FNP. (See sketch no. 1.)
4. Similarly, structures which may cause an intrusion into FNPs will typically not be permitted. FNPs are channels and anchorages created at public expense. Examples of intrusions are permanently moored vessels, fish harvesting devices, etc.
5. To preclude intrusions into FNPs, appropriate setbacks for structures from the project limits may be established on a case by case basis. The setbacks can be determined using appropriate criteria such as:
 - A. Project maintenance requirements. The typical setback shall be a horizontal distance three (3) times the authorized project depth since Corps projects often specify, for dredging purposes, side slopes of 3H: 1V. This will, over the long term, minimize the need, expense, and inconvenience of forcing people to remove structures to dredge. (See sketch no. 1).

- B. Traditional navigation patterns where because of type and size of vessel, channel conditions, fishing or recreational activities, etc. closer approach of structures to a FNP is not in the public interest.
 - C. The configuration and capacity of structures proposed adjacent to FNPs to facilitate intrusion into it. An example would be a pier capable of mooring vessels longer than itself which would extend into the FNP. Such structures would require a greater setback than noted above.
 - D. The presence of adjacent, authorized structures where it would be reasonable for new facilities to conform to their length to provide safe access to the new structure. In some instances this might authorize a smaller setback than noted above.
6. An exception to the guideline regarding FNPs, structures may be favorably considered where the applicant is a state or local government who would place such structures in a Federal Anchorage to provide greater or more effective use to the public, with the condition that such facilities would be available on an equal access basis to all citizens of the U.S.
7. In a linear waterway, i.e., river, canal, narrow estuary, etc., a reasonable area of public water should be maintained in the public interest to sustain activities not specifically related to simply transiting the area in safety. Such activities are cruising, fishing, sail boarding, swimming, water skiing, etc. which require open, unobstructed water and should not be eliminated for private interest.

In such areas, no structure should extend more than 25% of the waterway width at mean low water. This will maintain 50% of the width as open water, an even split, between public and private interest. (See sketch no. 2.)

8. A maximum intrusion into a waterway in areas where there is not a physical width constriction is also desirable to preclude excessive loss of public water usage. In general, new structures should conform in length to adjacent structures and customary usage of the surrounding area. In areas where existing structures and usage do not seem applicable, a reasonable maximum authorized distance beyond mean low water of 600 feet (the traditional cable length) will be used. This may be modified if necessary for site specific conditions or public benefit. (See sketch no. 3.)
9. Numerous conflicts between neighboring waterfront property owners have arisen during our permit review process concerning the spacing of projects relative to riparian lines (demarcations of rights in the water associated with owning waterfront property). These conflicts are generally concerned with access to piers and floats for mooring vessels. We typically require a minimum setback from the reasonable riparian boundary of 25 feet. This is based on the fact that a median sized recreational vessel length is in the range of 32 feet. A minimum turning distance for such a vessel is 1.5 times its own length or 48 feet which we have rounded to 50 feet. Each adjacent facility provides half the required turning distance, which is an equitable distribution of the resource. (See sketch no.3)

If abutting property owners reach a mutual agreement regarding structures which has a lesser setback, that setback may be authorized, if the applicant agrees to record any ensuing Corps permit which will have that agreement as a condition and the abutter's letters of no objection, with the Registrar of Deeds, or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property.

10. Fields of individual single point moorings shall be defined by a polygonal area whose angle points are defined by coordinates, to within 10 feet, in the applicable state plane coordinate system and by a maximum number of moorings authorized within it. A rule of thumb for the area needed by a vessel on a single point mooring is a circle with a radius equal to vessel length plus five times the depth of water at high tide. This can be reduced but the minimum should be length plus three times water depth.

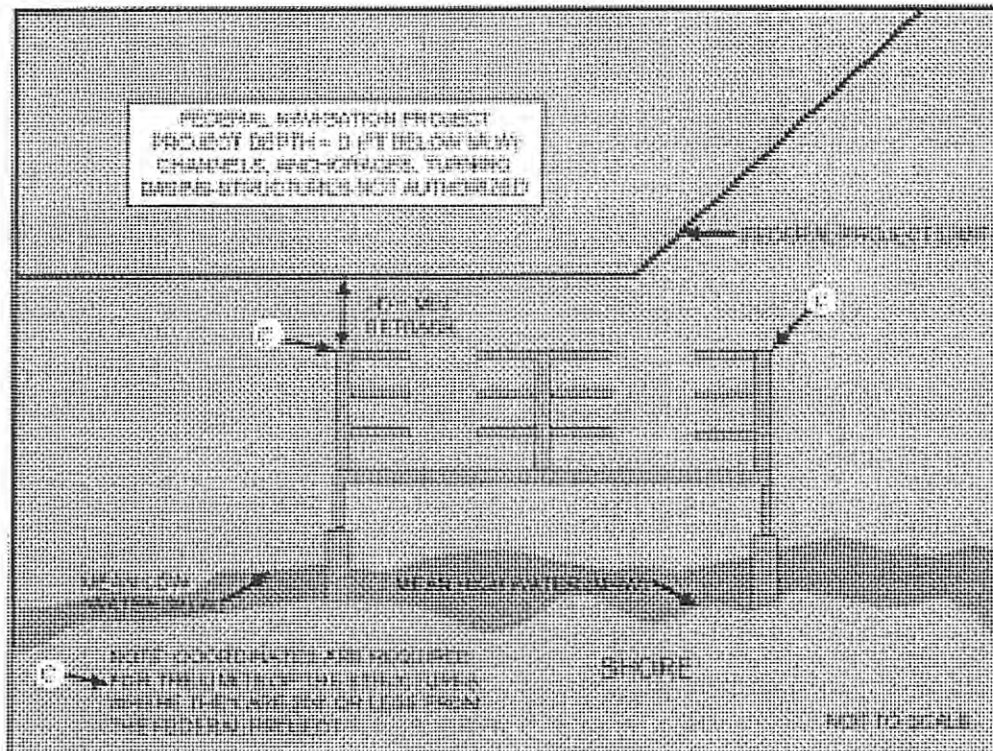
These mooring fields should be in reasonably close proximity to the applicant's property and preferably encompassed by his reasonable riparian lines and far enough offshore to keep noise disturbance to other shore owners in reasonable limits and not restrict reasonable future development by these owners. If mooring areas remote from the applicant's property are proposed, a clear description of why this is necessary and what are the potential positive and negative impacts to the public's use of the water may occur. See sketch no. 4)



New England District
Regulatory Program

Guidelines

For the placement of fixed and floating structures in navigable waters of the United States regulated by New England District, U.S. Army Corps of Engineers



SKETCH NO. 1: ILLUSTRATION OF GUIDELINES FOR STRUCTURES
NEAR FEDERAL NAVIGATION PROJECTS



[Click Image to Return to Guidelines](#)

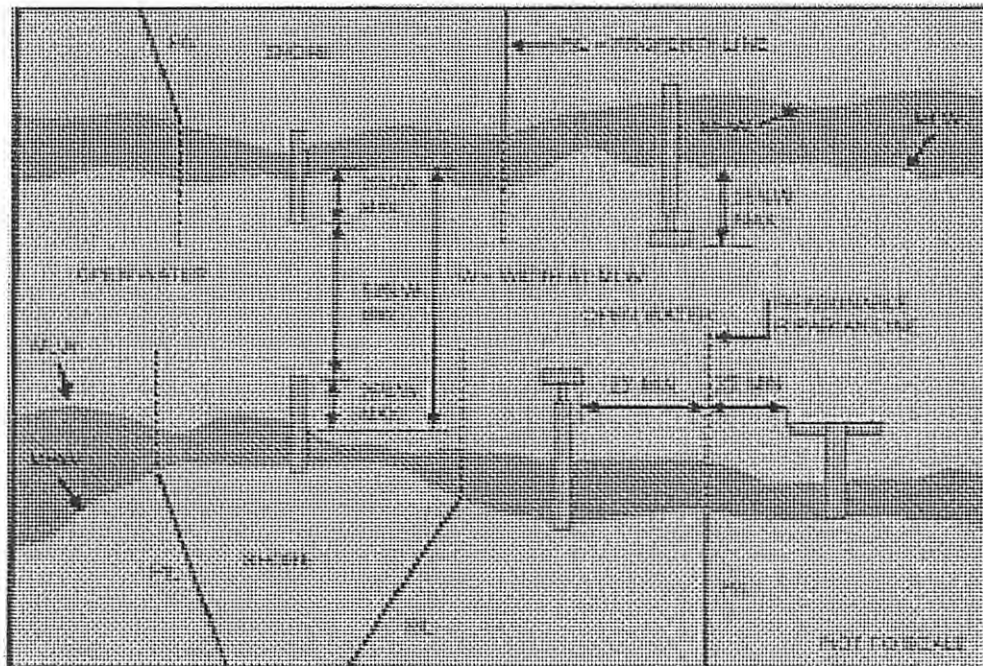
To receive a copy of these publications, e-mail Alexine M. Raineri
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New England District
Regulatory Program

Guidelines

For the placement of fixed and floating structures in
navigable waters of the United States regulated by
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SKETCH NO. 2: GUIDANCE ON LENGTH OF STRUCTURES IN LINEAR
WATERWAYS

[Click Image to Return to Guidelines](#)



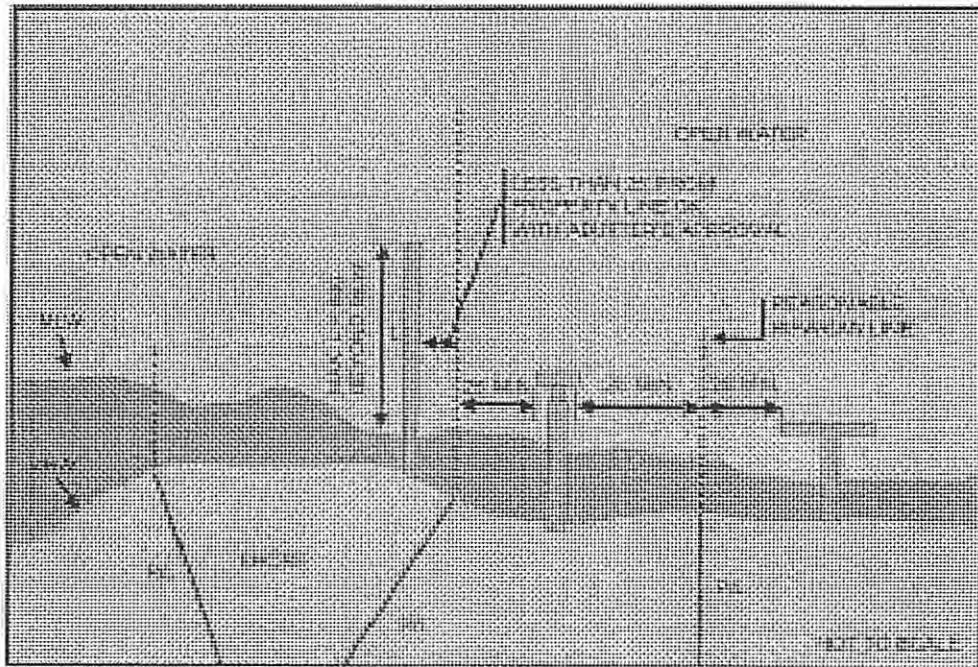
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SKETCH NO. 3: GUIDANCE ON SPACING STRUCTURES RELATIVE TO ADJACENT PROPERTIES AND MAXIMUM LENGTH BEYOND MEAN LOW WATER (MLW)

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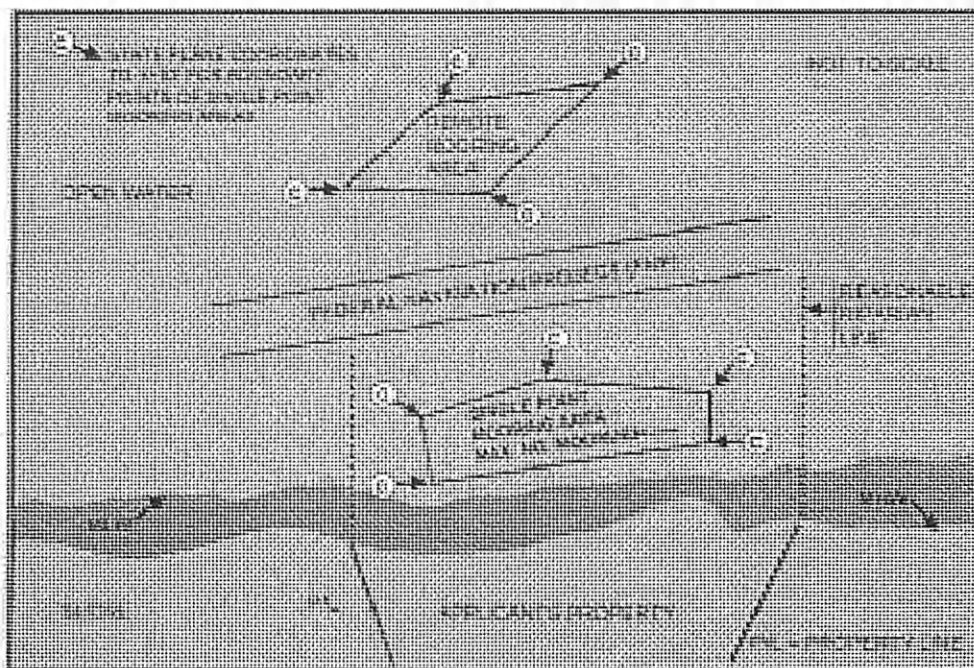
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SKETCH NO. 4: ILLUSTRATION OF GUIDELINES FOR SINGLE POINT MOORING FIELDS

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alexine.m.raineri@nae01.usace.army.mil

Appendix E

OPINION OF PROBABLE COSTS

May 24, 2019

Revisions: May 30, 2019

FLOATING DOCK PROJECT

THAMES STREET HARBOR

City of Groton, CT

Prepared For:

The City of Groton

25 Meridian Street

Groton, Connecticut 06340

Prepared By:

Coastline Consulting & Development, LLC

57-B East Industrial Road

Branford, Connecticut 06405

INTRODUCTION

The City of Groton (City) is seeking construction funding for the planned docking facility at their Thames Street Harbor property on the Thames River. The City is applying for a Small Harbor Improvement Projects Program (SHIPP) grant that, if received, will fund a large portion of the project. Because the application requires inclusion of a proposed project cost, the City contracted with Coastline Consulting & Development, LLC (Coastline) to prepare an Opinion of Probable Costs (Opinion) that would provide budgetary guidance.

PRELIMINARY SCOPE OF WORK

The preliminary scope of work involves the following:

- Demolition and disposal of the existing fixed timber pier and associated accessories.
- Installation of a floating dock system restrained by steel piles that will provide approximately eight (8) boat slips, including one (1) permanent slip for the City of Groton Harbormaster, one (1) permanent slip for the Thames River Heritage Park Water Taxi, and six (6) transient slips available to the public. The face of the T-head float will be used for temporary/public loading and offloading, and taxi pickup and drop-off.
- Installation of an accessible proprietary kayak launch system and associated access float.
- Installation of an ADA aluminum gangway connected to a new reinforced concrete pad.
- Installation of dockside utilities, including electrical and plumbing systems available at deck mounted pedestals, and landside standpipe system for fire protection.

EXCLUSIONS

- Owner's soft costs
- Owner supplied insurance costs
- Permit fees, taxes or assessments
- Bonds: Bid, Performance/Payment
- Ancillary marina furnishings/equipment other than as specifically included in the Opinion
- Dock utilities cost as calculated by a specialty MEP consultant

SPECIALTIES

- Cost estimate for dock utilities is shown as a lump-sum place holder and is not based on a calculated estimate from a specialty consultant
- Cost estimate for landside standpipe system for fire protection provided by BL Companies through the City

DESIGN CONTINGENCY

A 10% design contingency allowance has been included in the Opinion. The purpose of this is to allow for the following:

- The cost of items which are not yet shown or detailed on the preliminary plan and cannot be measured, but are required to complete the design.
- The cost of details and variations from the standard, which the unit prices used in an Opinion, do not reflect.
- Minor design changes or scope increases required as the design evolves.

The design contingency is not intended to cover the cost of extensive design changes or significant scope increases.

CONSTRUCTION CONTINGENCY

A 10% construction contingency allowance has been included in the Opinion.

The purpose of a construction contingency is to allow for the cost of minor changes that inevitably occur during the construction process. It is not intended to cover the cost of significant scope changes or increases.

METHODOLOGY

The Opinion for this project was based on preliminary plans dated March 28, 2019 prepared by Coastline, preliminary pricing from industry vendors, regional/historical precedent projects, and information received during telephone conversations, email correspondence, and interviews with Dennis Goderre, City Planner.

As the project information available at this time is preliminary in nature, the Opinion is based upon the assumption that the new floating dock system, when complete, will be of the highest quality both functionally and aesthetically. It is recognized that the new facility could in all probability be constructed at less cost than indicated in the Opinion with a reduction in the scope of work or quality of material.

While the scheme to build the facility may be restricted somewhat by subsequent state and federal permitting, the Opinion assumes that the level of finish and sophistication of mechanical and electrical services will be that of a high-end, accessible, commercial docking facility.

The unit rates for material and labor are based upon historical and current records. The level of pricing reflects the probable construction costs obtainable in the greater Long Island Sound area at the time the Opinion was prepared. The Opinion is a determination of fair market value for the construction work; it is not a prediction of the low bid; and it assumes competitive bidding. Experience indicates that participation of fewer bidders or lack of competitive subcontractor bidding may result in less competitive bids.

This Opinion is based upon industry practice and experience and represents Coastline's best judgment as a professional consultant familiar with the industry. It is recognized, however, that neither Coastline nor the City has control over the number of labor hours, the cost of materials or equipment, the contractor's methods of determining bid prices, or competitive bidding, market or negotiating conditions. Accordingly, Coastline cannot and does not warrant or represent that bids or negotiated prices will not vary from the City's budget for the cost of construction or from this Opinion prepared by Coastline.

OPINION OF PROBABLE CONSTRUCTION COST

Table 1 on page 4 of this report details the range that was developed for this project. The ranges do not represent firm quotes and are subject to change based upon further design development, permitting, and final design. These costs are intended to provide a basis for determining a preliminary budget for the cost of construction.

TABLE 1
OPINION OF PROBABLE COSTS

Project Information	
Project Name:	Thames Street Harbor
Project Number:	19-041
Project Location:	Groton, CT
Client:	City of Groton
Prepared By (coastal consultant):	Coastline Consulting & Development

Cost Criteria	
Pricing	preliminary
US dollars (year)	2019
Construction Contingency	10.0%
Design Contingency	10.0%
Profit	10.0%
Sales tax on materials	0.0%
Inflation	0.0%

Construction Assumptions	
1. All floats to be concrete by Bellingham Marine or approved equivalent	
2. All float anchor piles to be 16" diameter, 1/2" wall, and 70' long	
3. Kayak access float to be wood or proprietary system by EZ Dock	
4. Kayak launch float to be proprietary system by EZ Dock	
5. Gangway to be aluminum ADA 5' x 80' by Ravens Marine or approved equivalent	
6. Utilities have not been estimated; provided cost is a lump sum place holder	
7. Upland concrete landing pad to be 10' x 10' and 18" thick	

Summary of Costs	
Professional Services	\$ 69,720
Contractor Mobilization	\$ 32,500
Labor & Equipment	\$ 156,000
Marine Demo Disposal	\$ 5,200
Floating Docks, concrete & wood	\$ 334,496
Kayak Launch System, proprietary (1)	\$ 26,000
Float Restraint Piles (8)	\$ 54,600
Gangway, aluminum (1)	\$ 49,400
Concrete Pad (100 SF)	\$ 6,500
Fire Protection (<i>provided by BL Companies via City</i>)	\$ 16,000
Utilities (<i>lump sum place holder</i>)	\$ 65,000
Opinion Total	\$ 815,416

Appendix F

Physical challenges and opportunities

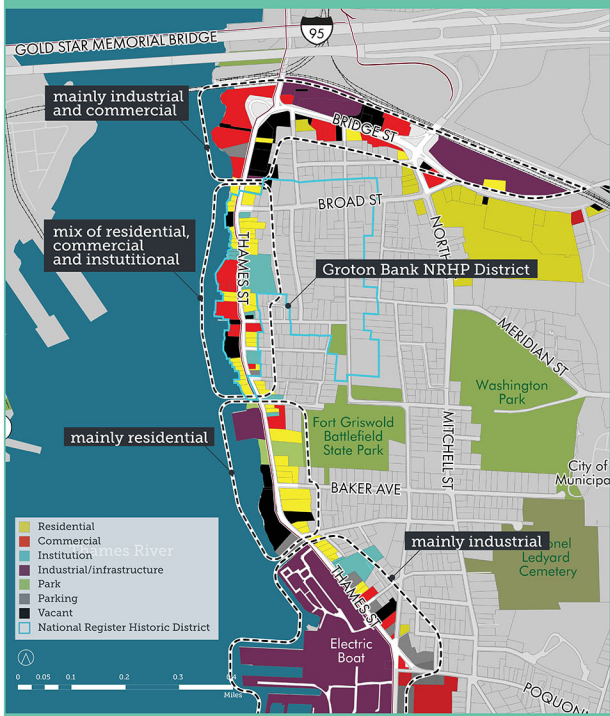
The Thames Street project examines redevelopment and design opportunities to create a walkable destination that enhances the identity of Groton's historic, waterfront community.



Existing Land Use

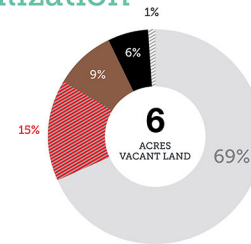
The corridor has a mix of uses but can broadly be divided into four major character areas:

- Commercial/industrial activity around Bridge and upper Thames Streets
- A mix of uses and historic district in the central Thames corridor
- Mainly residential uses and open space near Fort Griswold
- Electric Boat-related uses along lower Thames Street



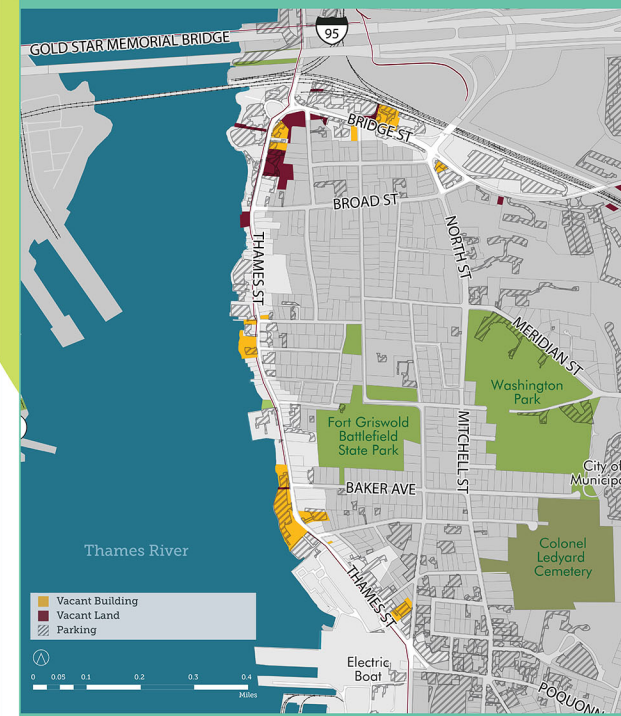
Vacancy/Underutilization

About 6 acres of land, or 30% of the land area, is either vacant or partially vacant. Most of the vacant or underutilized land is concentrated in the Bridge and upper Thames Street area. These are also among the largest parcels on the corridor.

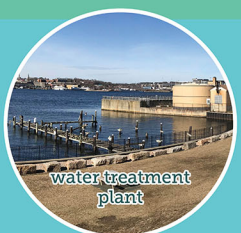
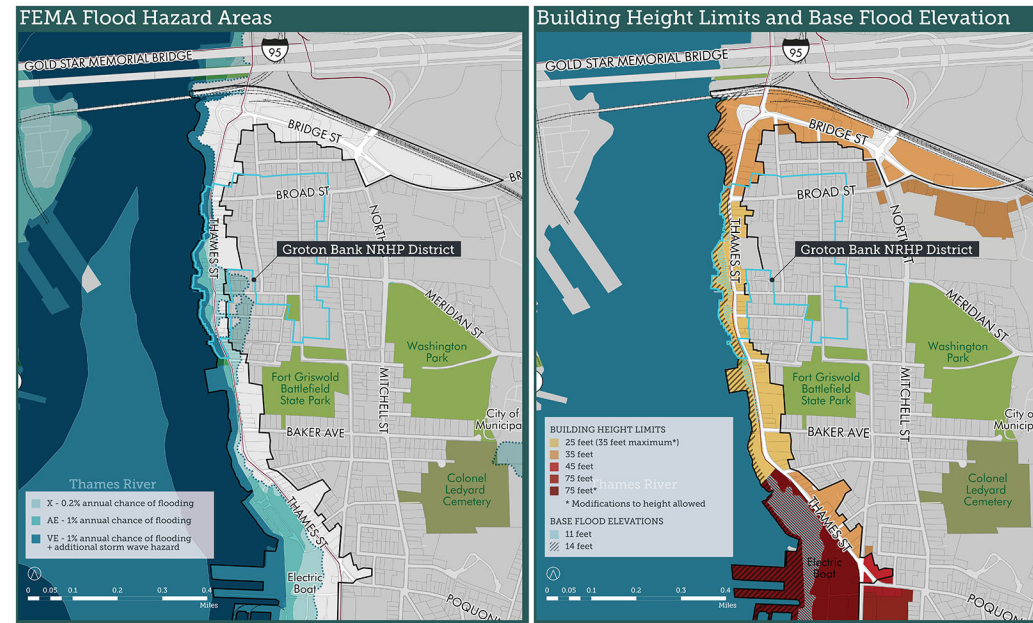


Susceptibility to Change

There are multiple opportunity sites along the Thames Street Corridor, with notable clusters around Bridge/upper Thames Streets around the Veterans Memorial, the central historic core, near Baker Avenue, and across from Electric Boat. Susceptibility to change criteria include vacancy, underutilization, and property ownership characteristics.



Waterfront development constraints

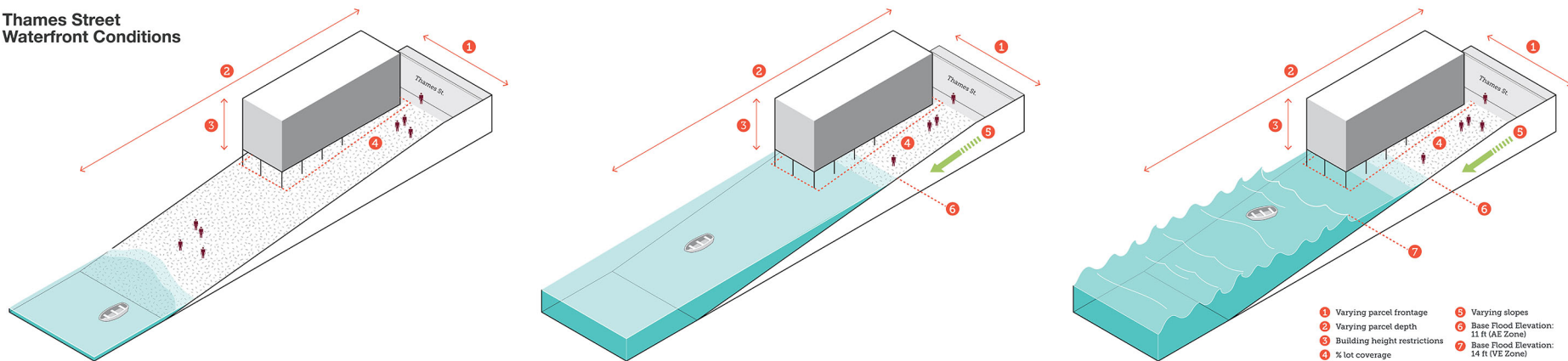


Environmental factors and zoning impact the feasibility of redevelopment

Most parcels on the west side of Thames Street are within the AE or VE flood hazard zones. Parcels within these zones are subject to base flood elevations and buildings must be elevated 11 feet and 14 feet above mean sea level in the AE and VE zones, respectively. This, combined with height limits and other zoning restrictions, constrains some parcels' buildable area, particularly in the historic core.

Parcels in the study area vary considerably in size, depth, frontage and topography. When combined with exposure to flood risk, base flood elevations, and height and lot coverage restrictions many parcels in the historic district south of Broad Street are more constrained in their redevelopment potential and most suitable for water-dependent uses. Parcels north of Broad Street along Thames and Bridges Streets are bigger, deeper, and less impacted by the flood zone.

Thames Street Waterfront Conditions

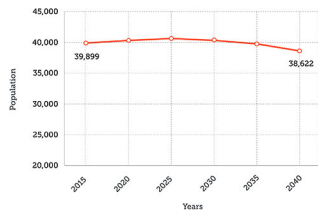


Groton by the numbers

Population Projections

Groton's population projections may be influenced by a number of factors going forward:

- The community is commuter-based, with approximately 80% of jobs occupied by people commuting in.
- Electric Boat is in the process of a major hiring expansion.
- Approximately 1,000 new units of housing are in the pipeline.



Unemployment Rate

- Steady decline in unemployment.
- 4.4% to 2.6% in Groton in 2018.



Housing Prices

- Housing prices have recovered from the recession.
- Groton: +\$3,000 (2%) in median home sales. Average \$/SF rose to \$166, up from \$149.



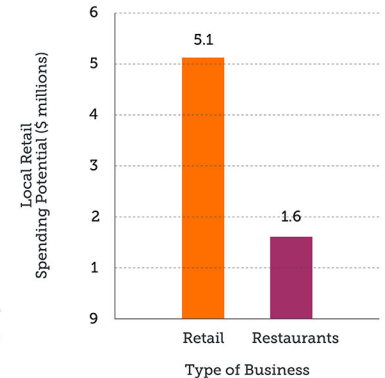
Commercial Space (February 2019 snapshot)

At the present time, it is cheaper to buy commercial property than to build property

- Sale units available: 22
- SF range: 1,566-20,102
- Median asking price: \$650,000
- Median \$/SF: 106.85

In terms of Retail Opportunity (ESRI 2018), the local retail spending potential is not adequate to support an active corridor. For example, restaurant spending is roughly equivalent to a Chipotle. Strengthening retail requires becoming a destination.

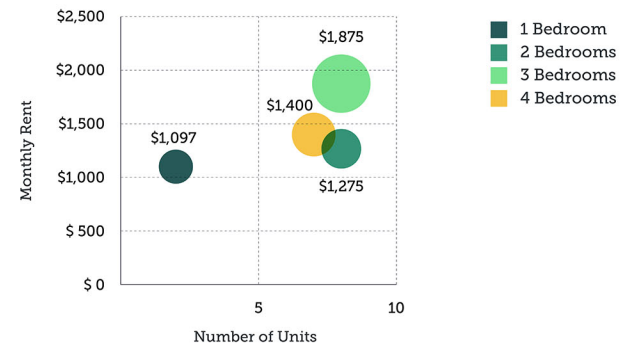
Almost 30% of the total commercial parcels on Thames and Bridge Streets are office space, followed by bars and restaurants (23%) and mixed use commercial/residential (17%).



Residential Rental Market (February 2019 snapshot)

Low inventories suggest opportunity for apartment development

- Median rental price: \$1,600
- Per bedroom for multiple bedrooms: Around \$630
- Available units: 29



Transportation challenges and opportunities



Thames St One-Way Conversion Assessment

Two-Way to One-Way Conversion Benefits & Impacts

	Southbound One-Way Conversion		Existing Two-Way Design	
	Benefits	Impacts	Benefits	Impacts
Speed, Safety & Walkability	<ul style="list-style-type: none"> Shorter crossings reduce pedestrian exposure Increased walking comfort with protection of on-street parked cars Potential to widen sidewalks Fewer sideswipe accidents with on-street parking lane buffers 	<ul style="list-style-type: none"> Higher one-way speeds will increase pedestrian injury/fatality rates (or reduce walking) Less walking volume due to halved person trips Less walk security due to reduced commercial activity Increased cut-through traffic in school zones on Smith Street 	<ul style="list-style-type: none"> Slower speeds of two-way "friction" reduce crash rate/severity Good visibility of crossing pedestrians without parked cars 	<ul style="list-style-type: none"> Sidewalks cannot be widened easily Side-swipe collision threat remains Limited on-street parking to provide walking comfort
Congestion	<ul style="list-style-type: none"> Thames Street intersections experience less delay Increased southbound throughput due to eliminating left-turning delays Reduced travel time (in one direction) when parking demand is low 	<ul style="list-style-type: none"> Increase in northbound delays on Mitchell, Smith, etc. (LOS D to F) Decreased throughput in opposite direction due to increased volumes Increased travel time in opposite direction due to delays 	<ul style="list-style-type: none"> Provides PM northbound congestion relief for Mitchell & Smith Reduces trip length & VMT with direct access to destinations from southern origins 	<ul style="list-style-type: none"> Increased delay at intersections from left-turn movements due to lack of turn lanes Narrow two-way may be difficult for large trucks to navigate
Parking	<ul style="list-style-type: none"> More space for 134 new on-street spaces (a 12% increase from 1,086 to 1,220 spaces) Provides missing front-door access to many business and valuable loading zones 	<ul style="list-style-type: none"> Parking demand does not warrant existing supply Under-utilization of existing off-street parking will continue or worsen Off-street options become less visible 	<ul style="list-style-type: none"> Off-street parking options are visible through shared parking opportunities On-street parking options visible on peripheral streets 	<ul style="list-style-type: none"> Less space for on-street parking Many businesses without front-door parking
Neighborhood Access	<ul style="list-style-type: none"> No left-turn conflicts entering neighborhood from the north 	<ul style="list-style-type: none"> Residents forced to cut-through other residential streets to travel north Increased general cut-through traffic on residential streets that are ill suited for heavy traffic Increased traffic diversion into school zones 	<ul style="list-style-type: none"> Direct access to neighborhood streets for all trips Maintains normal traffic levels in school zones 	<ul style="list-style-type: none"> None
Business Access	<ul style="list-style-type: none"> Front-door parking/loading 	<ul style="list-style-type: none"> Half as many potential pass-by customers without northbound traffic Longer travel times to businesses from the south Halved pass-by visibility Need for intercept signage on neighborhood streets 	<ul style="list-style-type: none"> Provides maximum two-way potential visibility Direct access from any direction 	<ul style="list-style-type: none"> Little front-door parking/loading
Emergency Access	<ul style="list-style-type: none"> No northbound emergency vehicle traffic 	<ul style="list-style-type: none"> Diverted routes and reduced fire access except from Broad Street Fire House Software system needs to be updated and upgraded to plan new dispatch routes Emergency response time delayed 	<ul style="list-style-type: none"> Maintains current Fire Department access routes Software system remains the same Emergency response time remains the same 	<ul style="list-style-type: none"> None
Cost Estimate	\$500,000 - \$1M		\$0	

Existing PM Volumes & Levels of Service



Future PM Volumes & Levels of Service



Parking

- Today there are 66 on-street spaces and 1,026 off-street spaces along Thames Street (1,086 total)
- With a one-way conversion, 134 new on-street spaces are created (1,220 total or a 12% increase)
- Observed peak utilization today does not exceed 60% (500 empty spaces today).

Off-Street Parking Lots



Tell us what you think. Use the stickers to vote for your **TOP THREE** ideas.



- 1 Wayfinding system
- 2 Best development opportunity based on parcel size, flood zones and zoning
- 3 Realign Bridge St., Fairview Ave. and Thames St. for pedestrian safety
- 4 Maintain Veterans Memorial as part of expanded plaza space
- 5 Long-term: bike path over rail bridge
- 6 Potential riverwalk and docks
- 7 Area for historic preservation, pedestrian-friendly attractions, and water access
- 8 Thames St. improvements to support bicyclists and pedestrians, and promote traffic calming
- 9 Move water treatment plant out of flood hazard and sea level rise zones
- 10 Develop a municipal parking for the Thames St. corridor on current green lot. Future development opportunity after water treatment plant moves.
- 11 Electric Boat-related development

Two rows of 20 circles each, for voting on the ideas.

What kind of development makes sense?

this is great!

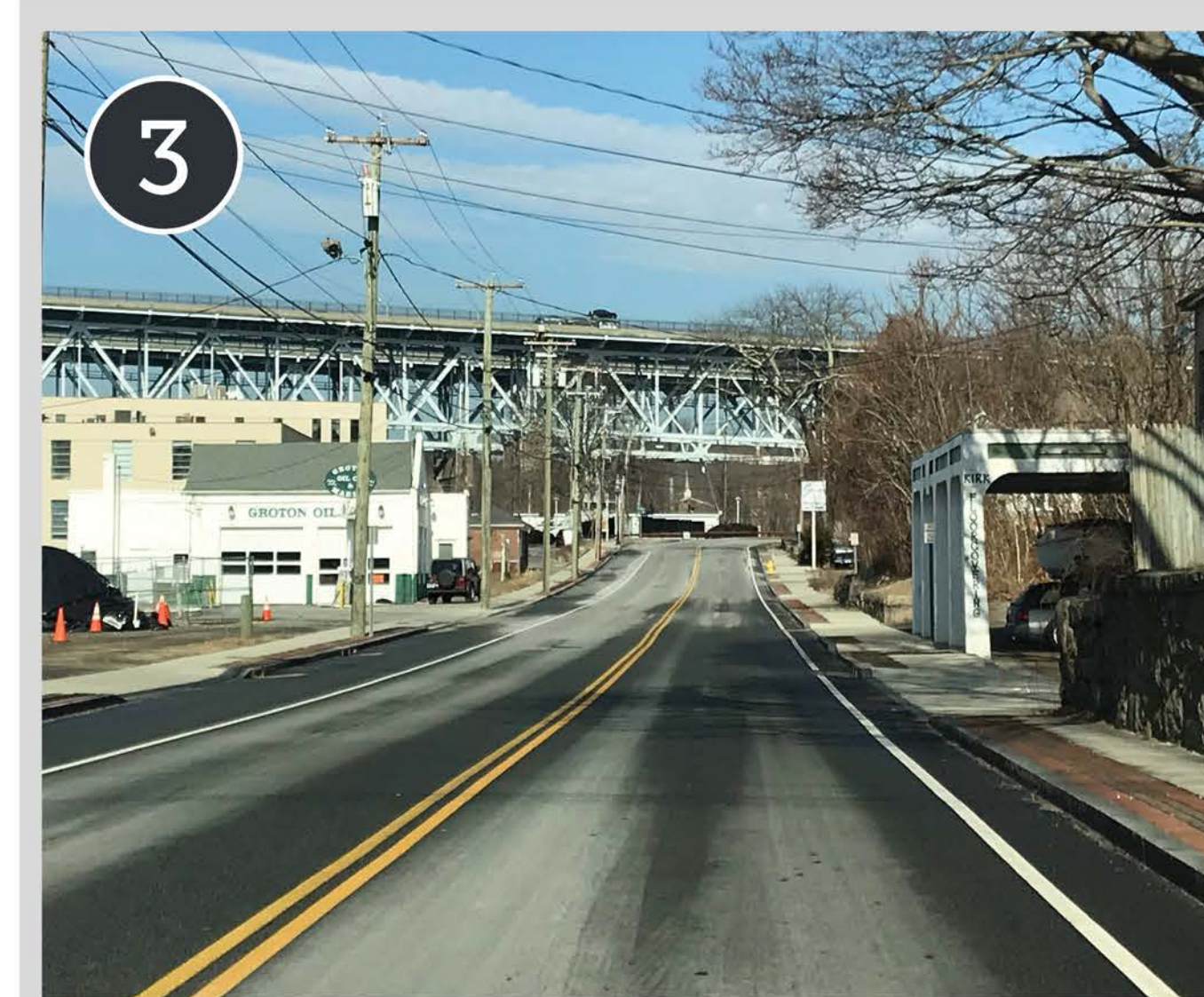
Tell us what you think! Use a **PINK** sticky note to tell us what you like about the examples and a **BLUE** sticky note to tell us what concerns you about the examples.

I AM CONCERNED ABOUT...

what currently is

examples of what could be

PLACE YOUR STICKY NOTES HERE:



Appendix G

Policies and Action Steps

Many sections of the POCD contain strategy recommendations. Some of these are “policies” which are on-going activities which do not generally have an end date.

Others are “action steps” which are specific tasks that can be tracked. In this POCD, “action steps” are presented as red text.

Leaders And Partners

Each “policy” or “action step” has an identified leader and partners. The “leader” is the entity considered most likely to bear responsibility for implementing the policy or completing the action step. Partners are other entities likely to be involved in implementation.

A legend for “leaders” and “partners” may be found on the inside back cover.

Priority

As part of preparing the POCD, participants reviewed the recommendations and scored them at one of four different priority levels.

Results were tabulated and the average score was converted to a 10-point scale.

The “priority” numbers in the strategy tables in the POCD are intended for general guidance only.

2.1 Strengthen and Enhance Thames Street

Thames Street was the main area identified by City residents as the area they would like to see strengthened and enhanced.

Thames Street, between Bridge Street and Fort Street, is the historic “heart” of Groton. It was the business core of the City many years ago and the area still contains many 18th and 19th century structures used as residences or for commercial purposes.

For many years, efforts have been applied to upgrading the physical environment of Thames Street (sidewalks, cobble crosswalks, street lights, etc.). The goal was to take advantage of the area's historic resources and waterfront location to attract more visitors and thereby support the improvement of existing buildings and the creation of new businesses.

To help implement the overall strategy, the City modified the Zoning Regulations to establish the Waterfront Business Residence (WBR) zone and to establish a “village district” for this area. A village district is a special type of zoning district in Connecticut which allows a Planning and Zoning Commission to review the aesthetics of new development to ensure it enhances the character of the area.

While the development of Thames Street has not evolved as fast as desired or in the ways it was anticipated, the goal remains a priority for residents and for City officials. Survey respondents recognized what a special place Thames Street is (and can be in the future) and want to revitalize it to bring people to this area overlooking the Thames River. People want to make Thames Street a destination for residents and visitors alike. Strengthening and enhancing the Thames Street area will contribute to promoting compact, transit accessible, pedestrian-oriented, mixed-use development.

As this POCD was being formulated, the Thames River Innovation Partnership (TRIP) was doing additional planning to find ways to promote and enhance the Thames Street area including strategies to:

- establish a critical mass of activities which will make Thames Street a vibrant hub of shops, restaurants, and other appropriate uses oriented to the river (and accessible by water taxi from New London).
- help establish shared parking areas.
- simplify traffic circulation and deter truck traffic (except local deliveries).
- continue improving the sidewalks and streetscape along Thames Street to improve the pedestrian environment and overall aesthetics of the area.
- promote the maintenance and expansion of buildings (including loans, grants, and other incentives).

Strategies To Strengthen and Enhance Thames Street

	Priority	Leader	Partners
Overall			
1. Continue to strengthen the vibrant mixed-use nature of the Thames Street area.	7.22	PZC	Staff
2. Continue to maintain and enhance the “sense of place” along Thames Street including use of the “village district” provisions in the Zoning Regulations and design guidelines (as recommended in Section 5.4 of the POCD on page 46).	7.78	PZC	Staff
3. Continue planning for the Thames Street area (including regionally supported redevelopment) in order to promote the desired outcomes.	3.89	PZC	EDC TRIP Staff
Private Investment / Development			
4. Continue to promote development which contributes to the overall vision for the Thames Street area and is consistent with the historic character and scale.	6.11	PZC	EDC Staff
5. Encourage or require private development to interconnect parking areas behind buildings and underneath buildings on the downhill side of Thames Street.	7.78	PZC	Staff
Public Investment / Actions			
6. Continue to upgrade the physical environment of Thames Street (paving, sidewalks and streetscape).	7.78	Council	EDC PZC TOG
7. Consider using “tax increment financing” as a way to pay for public investments on Thames Street which will spur appropriate private development.	6.11	Council	TOG PZC Staff
8. Address future parking needs in the Thames Street area by: <ul style="list-style-type: none"> Providing on-street and off-street parking facilities to meet current and future needs. Investigating other ways to maximize parking opportunities in the Thames Street area including investigating one-way traffic flow. 	5.56	PZC	Council EDC Staff
9. Consider acquiring strategic parcels in the Thames Street area for public waterfront access and parking.	3.33	Council	
10. Seek opportunities to create a public boardwalk along the Thames River, north of Electric Boat.	7.78	PZC	Council Staff
11. Seek ways to simplify traffic circulation on Thames Street and deter truck traffic (except local deliveries).	5.00	Council	Staff

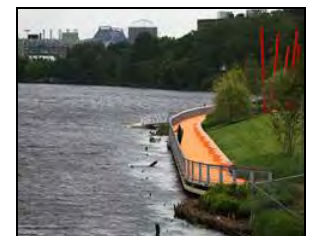
See inside back cover for legend

Relevant Resources

Resources related to Thames Street include:

- Historic District Study Report (1977)
- Thames Street Study (1982)
- Thames Street Revitalization Advisory Committee (1989)
- Thames Street Beautification Program (1990)

Possible Boardwalk Images



Thames Street Concepts – Northern Segment



Bing Maps

Thames Street Concepts – Southern Segment



Appendix H



City of Groton

295 Meridian Street Groton, CT 06340

Department of Planning & Economic Development

www.cityofgroton.com/ped

Dennis G. Goderre ASLA, AICP CUD

City Planner

(860) 446-4169

goderred@cityofgroton-ct.gov

Cierra Patrick

Economic Development Specialist

(860) 446-4066

patrickc@cityofgroton-ct.gov

May 21, 2019

Joseph Salvatore
Connecticut Port Authority
455 Boston Post Road, Suite 204
Old Saybrook, CT 06475

Re: Planning and Zoning Commission; CGS §8-24 Support for Thames Street Marina and Park Improvements

Dear Mr. Salvatore,

I am writing to inform you the Planning and Zoning Commission unanimously voted to support the transient dock facility with kayak launch during its August 2018 meeting and as required under CGS §8-24 for municipal improvements. Similarly, during the meeting of May 21, 2019, the Commission unanimously voted under its authority vested by CGS §8-24 to support the park improvements that would provide handicapped accessible access to the dock and waterfront.

Sincerely,

Paul Kunkemoeller
Chairman



THE CITY OF GROTON
ECONOMIC DEVELOPMENT COMMISSION
295 Meridian Street, Groton, CT 06340
(860) 446-4169

April 10, 2017

Mr. Joseph Salvatore
Connecticut Port Authority
505 Hudson St.
Hartford, CT 06106-7106

RE: Letter of Support for SHIPP Grant submitted by City of Groton

Dear Mr. Salvatore:

As Chairman of the City's Economic Development Commission, I want to endorse the City of Groton's application to the CT Port Authority for a Small Harbor Improvement Projects Program (SHIPP) grant. The grant is for the drafting of plans and construction drawings for a re-build of a permitted dock as well as the development of a Master Plan for the phased expansion of the uses for this City-owned waterfront property located at 343 and 353 Thames Street.

This grant will provide the City with the required financial assistance in support of this next phase of the development of the Costa Harbor property, meeting public needs and leading to anticipated spin off economic development in the nearby commercial district along Thames St.

On behalf of the City of Groton Economic Development Commission I urge your approval of this application.

Sincerely,

Cheryl Auerbach (Bq)

Cheryl Auerbach
Chairman, City of Groton EDC



THE CITY OF GROTON CONNECTICUT

295 Meridian Street

Groton, CT 06340

HARBOR MANAGEMENT COMMISSION

Jeffery Dziedzic, Harbor Master

860-446-4104 (PH)

April 7, 2017

Mr. Joseph Salvatore
Connecticut Port Authority
505 Hudson St.
Hartford, CT 06106-7106

RE: Letter of Support for SHIPP Grant submitted by City of Groton

Dear Mr. Salvatore:

As the Harbor Master for the City of Groton, I am writing in support of the City of Groton's application for a SHIPP grant to fund the planning and design work for the future installation of a modified dock and finger piers at the Costa property on Thames Street in the City.

The project is consistent with the Harbor Management Plan in two noteworthy areas. The first is the section of the Plan that states a goal of the plan is to encourage economic revitalization of this area of the City, by making provisions for transient vessels. The second is Section 4.2 that calls for encouraging public access and passive recreation and encouraging accommodation of transient vessels.

Receipt of this grant will allow the City to promote and encourage recreational boating along this underserved area of the Thames River shoreline and allow visitors coming by water to patronize the restaurants and shops located along the Street. It also encourages public access and passive recreation along the waterfront.

On behalf of the Harbor Management Commission, I urge your support of this project.

Sincerely,



Jeffrey Dziedzic, Harbor Master